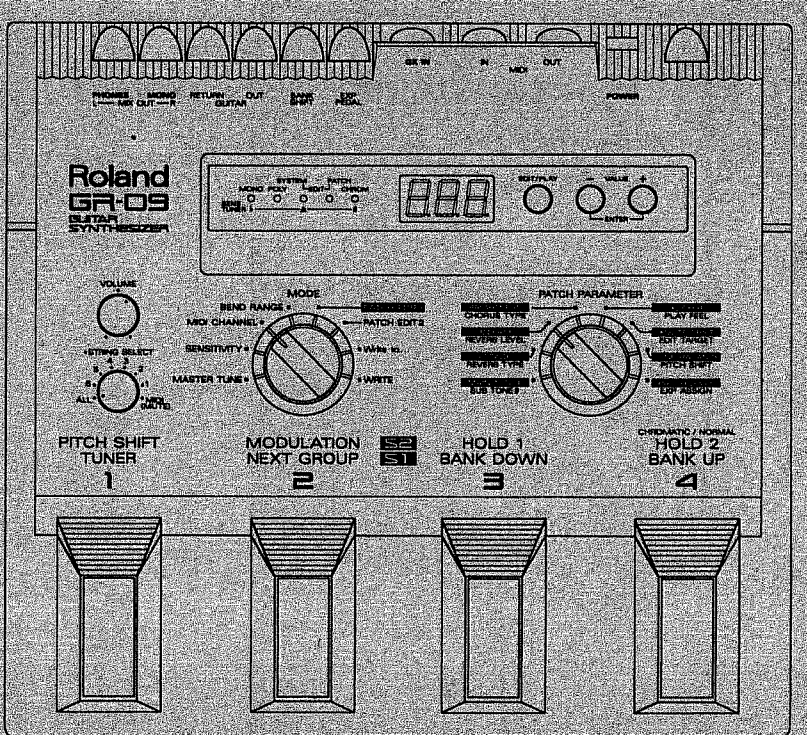
Roland®

GUITAR SYNTHESIZER

GR-09

OWNER'S MANUAL



For the U.K.

IMPORTANT: THE WIRES IN THIS MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE.

BLUE : NEUTRAL
BROWN : LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK.
The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

For Nordic Countries

Apparatus containing Lithium batteries

ADVARSEL!
Lithiumbatteri - Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri af samme fabrikat og type.
Levér det brugte batteri tilbage til leverandøren.

VARNING!
Explosionsfara vid felaktigt batteribyte.
Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren.
Kassera använt batteri enligt fabrikantens instruktion.

ADVARSEL!
Lithiumbatteri - Eksplosjonsfare.
Ved utskifting benyttes kun batteri som anbefalt av apparatfabrikanten.
Brukt batteri returneres apparatleverandøren.

VAROITUS!
Paristo voi räjahtää, jos se on virheellisesti asennettu.
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

For Germany

Bescheinigung des Herstellers / Importeurs

Hiermit wird bescheinigt, daß der/die/das
Roland Guitar Synthesizer GR–09
(Gerät, Typ, Bezeichnung)

in Übereinstimmung mit den Bestimmungen der
Amtsbl. Vfg 1046 / 1984
(Amtsblattverfügung)

funk-entstört ist.
Der Deutschen Bundespost wurde das Inverkehrbringen dieses Gerätes angezeigt und die Berechtigung zur Überprüfung der Serie auf Einhaltung der Bestimmungen eingeräumt.

Roland Corporation Osaka / Japan
Name des Herstellers/Importeurs

For the USA

FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Unauthorized changes or modification to this system can void the users authority to operate this equipment.
This equipment requires shielded interface cables in order to meet FCC class B Limit.

For Canada

CLASS B **NOTICE**
This digital apparatus does not exceed the Class B limits for radio noise emissions set out in the Radio Interference Regulations of the Canadian Department of Communications.

CLASSE B **AVIS**
Cet appareil numérique ne dépasse pas les limites de la classe B au niveau des émissions de bruits radioélectriques fixés dans le Réglement des signaux parasites par le ministère canadien des Communications.

Roland® GR-09
GUITAR SYNTHESIZER

Before you begin...

Thank you, and congratulations on your choice of the Roland GR-09 Guitar Synthesizer.

The GR-09 was designed to be as easy to operate as a multi-effects unit. It is ideal for virtually any guitar player, from top studio professional to working club musician to home hobbyist. Its light-weight, compact design packs an amazing bundle of performance features and high-quality sounds specially tailored to meet the needs of guitarists.

The GR-09 provides the guitarist with immense expressive capabilities — capabilities long the sole domain of keyboardists! We feel certain that the GR-09 can greatly enhance your musical endeavors, whether on stage, in the studio or in the basement!

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FEATURES

Extremely Fast Response

A new processing technology allows the unit to track reliably and respond very quickly, thereby overcoming two of the biggest problems associated with other guitar synthesizers.

Familiar Foot Pedal Design

The GR-09 is designed to sit on the floor, just like a conventional pedal board setup. Because the GR-09 includes the pitch detection circuitry, tone generator and foot switches in one compact package, setup and play is a breeze!

Compact and Lightweight Design

The GR-09 is quite possibly the lightest polyphonic guitar synthesizer that has ever been offered. This is because it was specifically designed to be as compact as possible, and to incorporate the highest degree of integration possible. This feature is sure to be appreciated by professional guitarists who travel frequently, as well as by semi-professionals who need to carry all their equipment by themselves.

Easy Operation

With the GR-09's simple set of controls, including two large selection dials, even a novice user can achieve results quickly. Since all the parameters are printed right on the panel, finding what you want is easy.

High-Quality Sounds

The GR-09 contains most of the wave data found in the renowned Roland GR-1 (*). It contains 180 different Tones, ranging from acoustic instrument sounds to synthesized sounds.
By installing an expansion board (GR9E-1; optional), you can add an additional 180 Tones for a total of 360.

* ***Because of differences in the way wave data is processed, the sounds on the GR-09 are not identical to those in the GR-1.***

Digital Effects

The on-board Chorus and Reverb can be applied to the internally generated synth sounds. While the effects rival the quality of those of a stand-alone effects unit, operation is greatly simplified through the use of Presets.

Pedal Control

The unit's four pedals not only allow you to select sounds, but they can also be used as switches when applying the hold, modulation, and pitch change effects to the synth sound. Additionally, you can obtain pedal control over the volume, pitch, or timbre of the synth sounds if you connect an expression pedal (EV-5; optional).

Sophisticated Interfacing

The MIDI connectors (IN/OUT) allow you to easily control external tone generators, or record onto a sequencer. The GUITAR OUT and GUITAR RETURN jacks allow you to process the normal guitar sound with an external unit, and/or direct the normal guitar sound and the synthesized sounds to different amplifiers.

Important Notes

Be sure to use only the AC adaptor supplied with the unit. Use of any other AC adaptor could result in damage, malfunction, or electric shock.

Power Supply

- *Before connecting this unit to other devices, turn off the power to all units; this will help prevent damage or malfunction.*
- *Do not use this unit on the same power circuit with any device that will generate line noise; an electric motor or variable lighting system for example.*
- *The power requirement for this unit is indicated on its nameplate (rear panel). Ensure that the voltage in your installation meets this requirement.*
- *Avoid damaging the power cord: do not step on it, place heavy objects on it, etc.*
- *When disconnecting the AC adaptor from the power outlet, grasp the plug itself; never pull on the cord.*
- *If the unit is to remain unused for an extended period of time, unplug the power cord.*

Placement

- *Do not subject the unit to temperature extremes (eg., direct sunlight in an enclosed vehicle). Avoid using or storing the unit in dusty or humid areas, or areas that are subject to high levels of vibration.*
- *Using the unit near power amplifiers (or other equipment containing large power transformers) may induce hum.*
- *This device may interfere with radio and television reception. Do not use this device in the vicinity of such receivers.*
- *Do not expose the unit to temperature extremes or install it near devices that radiate heat. Direct sunlight in an enclosed vehicle can deform or discolor the unit.*

Maintenance

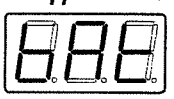
- *For everyday cleaning wipe the unit with a soft, dry cloth or one that has been slightly dampened with water. To remove stubborn dirt, use a mild, non-abrasive detergent. Afterwards, be sure to wipe the unit thoroughly with a soft, dry cloth.*
- *Never use benzene, thinners, alcohol or solvents of any kind, to avoid the possibility of discoloration and/or deformation.*

Additional Precautions

- *Protect the unit from strong impact.*
- *Do not allow objects or liquids of any kind to penetrate the unit. In the event of such an occurrence, discontinue use immediately. Contact qualified service personnel as soon as possible.*
- *Never strike or apply strong pressure to the display.*
- *Should a malfunction occur, or if you suspect there is a problem, discontinue use immediately. Contact qualified service personnel as soon as possible.*
- *To avoid the risk of electric shock, do not open the unit or its AC adaptor.*

Memory Backup

- *This unit contains a battery which powers the unit's memory circuits while the main (AC) power is off. The expected life of this battery is 5 years or more. However, to avoid the untimely loss of memory data, it is strongly recommended that you change the battery every 5 years.*
  Please be aware that the actual life of the battery will depend upon the physical environment — especially the temperature — in which the unit is used. When it is time to change the battery, consult with qualified service personnel.
- *When the battery becomes weak the following message will appear in the display:*



Please change the battery as soon as possible to avoid the loss of memory data.

- *Please be aware that the contents of memory may at times be lost; when the unit is sent for repairs or when by some chance a malfunction has occurred. Important data should be stored in another MIDI device (eg., a sequencer), or written down on paper (if possible).*
  During repairs, due care is taken to avoid the loss of data. However, in certain cases (such as when circuitry related to memory itself is out of order), we regret that it may not be possible to restore the data.

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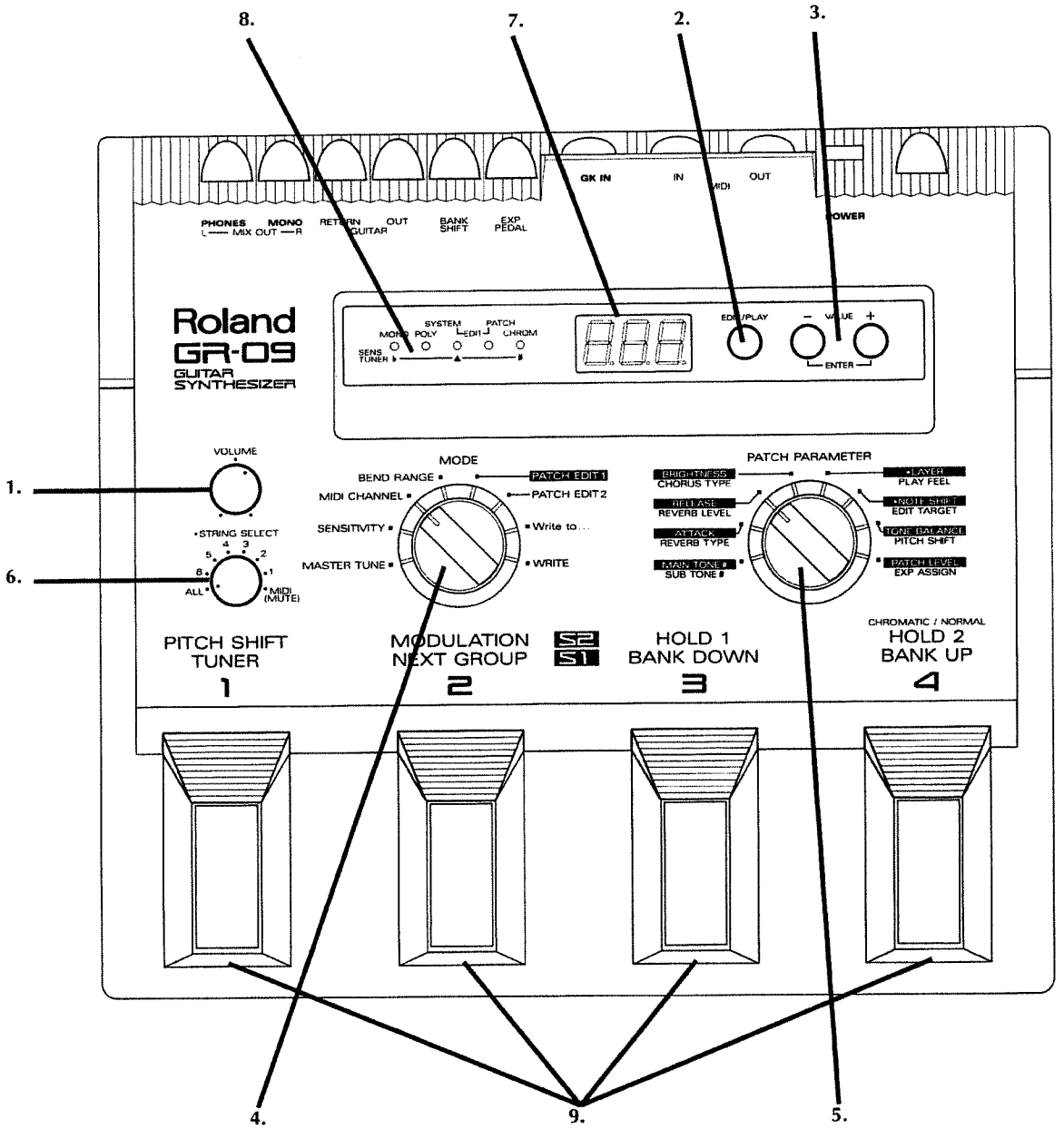
Panel Descriptions

Front Panel



1. [VOLUME] Knob

This knob adjusts the volume of the signals output from the MIX OUT jacks. A position near the knob's center mark is usually the best level to use when the GR-09 is connected to an instrument amplifier or a mixer.

* ***This knob does not control the output from the GUITAR OUT jack.***

2. [EDIT/PLAY] Button

Pressing this button switches between the Play mode and the Edit mode (p. 26).

3. VALUE Buttons [+]/[-]

Patches can be changed by pressing the [+] or [-] button while in the Play mode. When in the Edit mode, these buttons changes the value of the selected parameter. Each time the [+] button is pressed, the value increases by one. The value will change continuously when the button is held down. If you hold down [-] at the same time, the value will change more rapidly. These functions apply to the [-] button as well.

These button can also be used for writing Patches (p. 28).

4. [MODE] Dial

This dial is used to select the area you wish to work with when in the Edit mode: the System area (for tuning, etc., p. 27) or the Patch area (sounds, effects, etc., p. 32).

5. [PATCH PARAMETER] Dial

After PATCH EDIT1 or 2 is selected using the [MODE] Dial, this dial is used to select the Patch parameter you wish to edit. Two parameters are assigned to each of the dial's eight detents (positions). At each detent, the upper function (written as white characters on black) is selected when PATCH EDIT1 is also selected, and the lower function is selected with PATCH EDIT2.

6. [*STRING SELECT] Knob

This knob is used to select the target string when editing the "Layer" or "Note Shift" Patch parameters (p. 36, 37).
Also, by rotating the knob completely clockwise (for either Patch parameter), the unit can be set to MUTE (MIDI Local Off) (p. 64).

7. Display

The display shows Patch numbers when in the Play mode. In the Edit mode, it shows the value set for specific parameters. Additionally, a variety of helpful messages are displayed here.

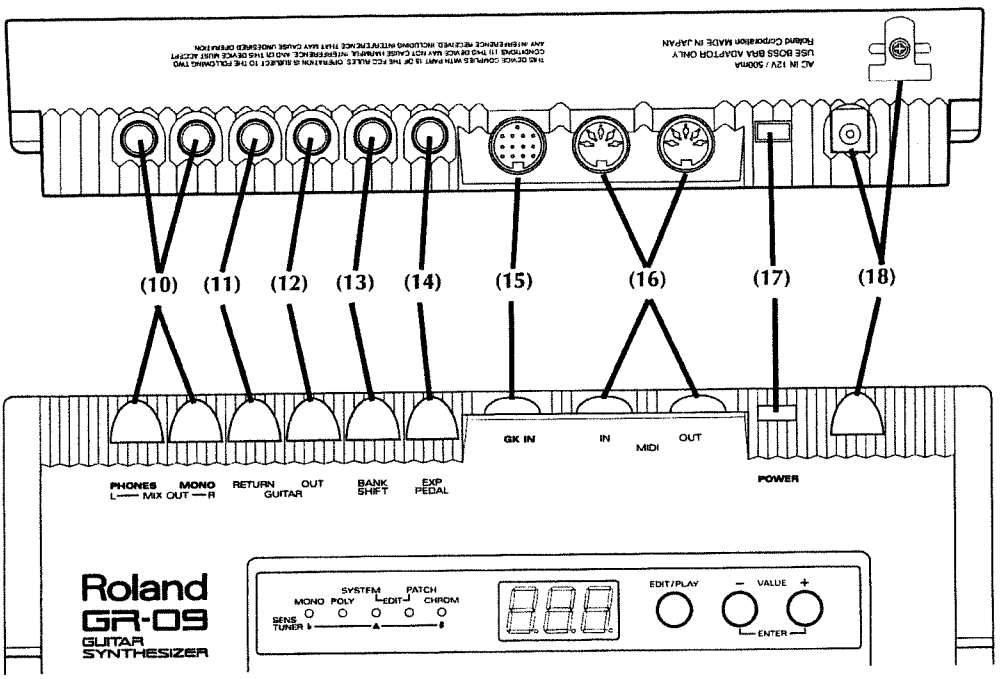
8. LEDs

These five light emitting diodes (LEDs) serve as the unit's meter while the Tuner function is in use, and when adjusting the sensitivity.
Also, when in the Edit mode, these LEDs indicate the status of the unit ("EDIT SYSTEM" or "EDIT PATCH", for example.)

9. Foot Pedals (1-4)

This section consists of four foot-activated switches (pedals). In the Play mode, use these pedals with the S1 switch of the GK-2A to select Patches. In the Pedal Function mode, use these pedals with the S2 switch of the GK-2A to obtain various effects (eg. Hold). When editing a Patch, you can set the "CHROMATIC" function (using pedal number 4).

Rear Panel


(10)
(11)
(12)
(13)
(14)
(15)
(16)
(17)
(18)
GK IN
IN
MIDI
OUT
POWER
PHONES
L— MIX OUT —R
MONO
RETURN
OUT
GUITAR
BANK
SHIFT
EXP
PEDAL
Roland
GR-09
GUITAR
SYNTHESIZER
SYSTEM
PATCH
MONO
POLY
EDIT
CHROM
SENS
TUNER
EDIT/PLAY
VALUE
ENTER

10. MIX OUT Jacks (L/PHONES, R/MONO)

These jacks provide output of the synthesizer's sound. When nothing is connected to the GUITAR OUT jack, the guitar sound is mixed with that of the unit and output through the MIX OUT jacks.
If you use a stereo output (L & R), you will be able to enjoy the full benefit of the internal effects. (Use the R/MONO jack whenever a monaural output is required.)

Because the L/PHONES jack accepts a standard 1/4" stereo phone plug as well, it can be used as a headphone jack. (In such cases, you must not connect anything to the R/MONO jack.)

11. GUITAR RETURN Jack

When you are using the GUITAR OUT jack to send signals to an external effects unit, this jack accepts the signals being returned from that unit (p. 13).

12. GUITAR OUT Jack

When you want the straight guitar sound to be output separately from the synth sound, use this jack. (Connect the output of this jack to a guitar amplifier or external effects unit for the best results.)

13. BANK SHIFT Jack

This jack accepts a specialized (optional) pedal which gives you control over switching Patch banks. [Use two footswitches (one for increasing the Bank number, the other for decreasing it) with a special cable (PCS-31; sold separately).]

14. EXP (Expression) PEDAL Jack

You can gain pedal control over the volume of the synth sound, tonal coloration, or pitch when you connect an expression pedal to this jack.

15. GK IN Connector

Connect the synthesizer driver (GK-2A; optional) to this connector using a specialized 13-pin cable.

* ***Roland's original Synthesizer Driver (the GK-2) can also be used.***

16. MIDI IN/OUT Connectors

These connectors are used to connect external MIDI devices. Once connected, you will be able to control a sound module (for example), or use MIDI to send and receive sound data.

17. POWER Switch

This switch turns the unit on and off.

18. Power Inlet/Cord Hook

Connect the supplied AC adapter to the power inlet. To prevent the AC cord from accidental disconnection, loop the cord around the cord hook.

* ***Use only the supplied AC adapter. Use of any other adaptor could result in damage, malfunction or electric shock.***

Chapter 1

Introduction
Let's Hear How It Sounds!

<Purpose of This Chapter>

In this chapter you'll learn how to install the synthesizer driver (GK-2A) on your guitar, and how to play the GR-09's synthesized sounds. Simply by absorbing the information contained in this chapter, you will know most of what you need for using the unit (as long as you stick to the Preset Patches!).

1-1 Installing the GK-2A on Your Guitar / Connecting Other Devices

First of all, you must install the GK-2A on your guitar. A detailed explanation of how to perform the installation can be found in the GK-2A Owner's Manual.

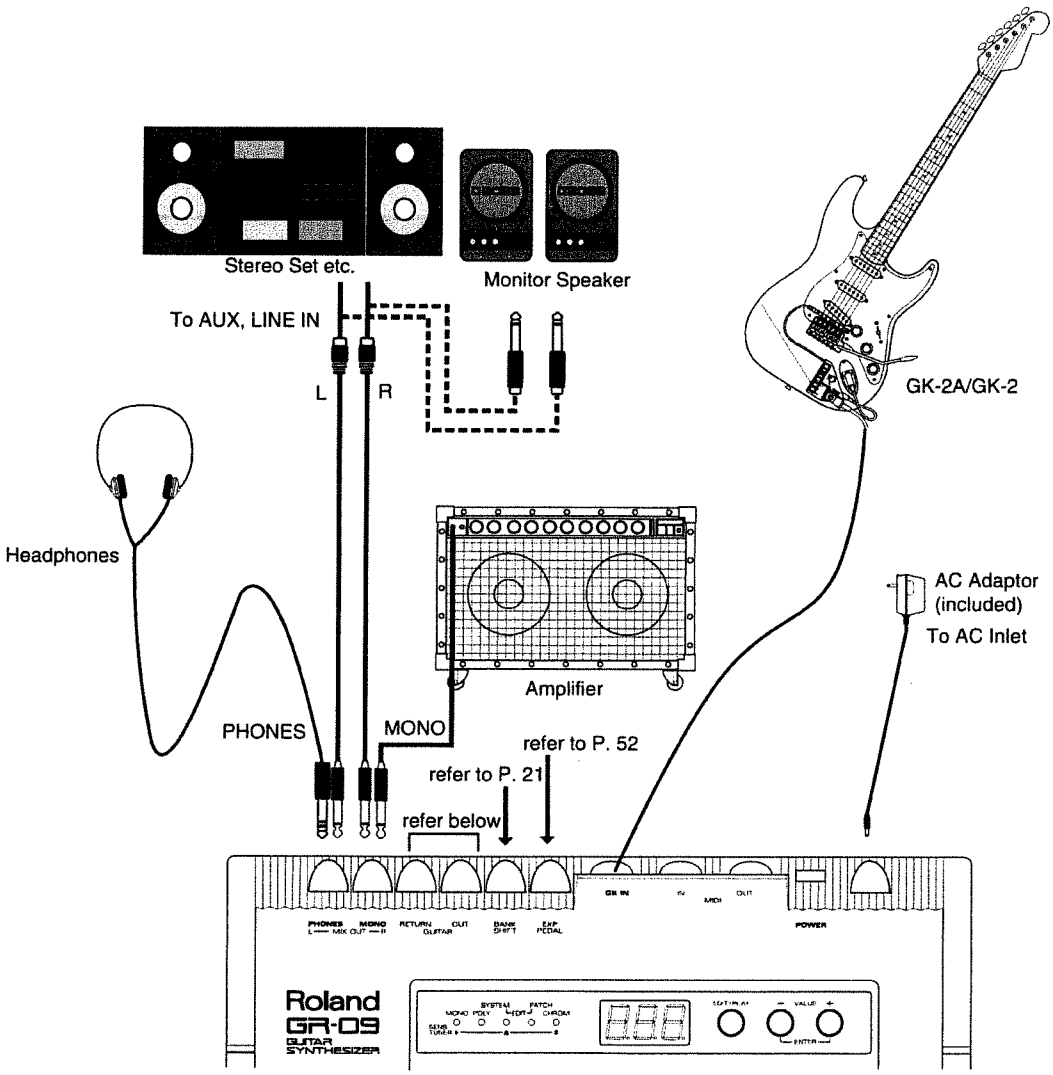
IMPORTANT! The GK-2A's compact design means it can be installed on the vast majority of guitars. However, there are some instruments on which it cannot be installed:

A. 12-string guitars, pedal steel guitars, or any other instrument with a special string configuration. In addition, the GK-2A will not function properly on nylon or gut string guitars or bass guitars — even if the pickup is properly installed.

B. Guitars which, because of their construction, do not have space for the proper installation of the GK-2A.

Note that in the case of "B" above, certain guitars may permit installation after some relatively minor modifications are made to the guitar. (Never attempt to modify the GK-2A itself!)
Please consult the store where the instrument was purchased.

Once you have the GK-2A properly installed, connect each device in your system as shown in the following example:



 # If you do not connect a cable to the GUITAR OUT jack, the sound of the guitar itself will be mixed with the synth sound. These combined sounds will then be output from the MIX OUT jacks. This allows you to conveniently use a single amplifier for output of both the synth and guitar sounds.

When in the example above you want to add external effects to the guitar sound only, make the following connections:

GR-09's GUITAR OUT jack —> Input of external effects unit
GR-09's GUITAR RETURN jack <— Output of external effects unit

If you are not using a guitar amplifier for output, it is best to use an external effects unit having an amplifier simulation function (such as the BOSS ME-10, SE-70, etc.). This way, a suitable tonal color can be obtained for both the synth and guitar sounds.

 # When you want to output the guitar sound separately from the GR-09's synth sound, connect a cable to the GUITAR OUT jack. The output from this jack should then go to a guitar amplifier.

 # When using headphones, connect them to the L/PHONES side of MIX OUT. In such cases do not connect anything to the R/MONO side. (Line output and headphones output cannot be used together.)

1-2 Power ON! Tuning the Guitar

When you press the [POWER] switch on the rear panel, the unit is turned ON.

Check that "A11" has appeared in the display. This indicates the currently selected Patch. Patches are the 'units' in which the GR-09 handles the variety of sounds it contains. They can be called up anytime during a performance using the pedals. (For details, refer to p .32.)

..... Currently Selected Patch: [A11] (A11)

(Important Term) Play Mode

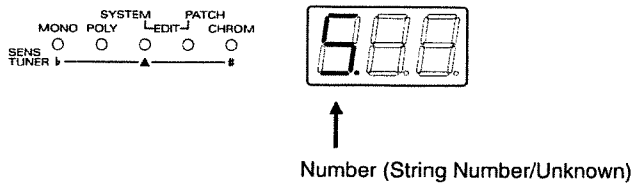
When the unit appears as above, with a Patch number displayed, it is referred to as being in the "Play mode." Almost all the playing you do will be done while in the Play mode. This mode is also where all the basic operations can be carried out. When you are still learning the unit's operation, and you see something displayed that you do not understand, you can always return to the Play mode by turning the unit off and then on again.

Before starting to play, use the on-board Guitar Tuner to tune your guitar. It allows for tuning in almost the same way as with any conventional automatic guitar tuner.

<Procedure> Tuning the Guitar

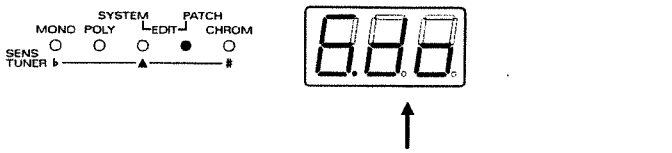
1. Depress pedal 1 (marked TUNER) while you hold down the S1 switch on the GK-2A.

   -> The Tuner function is activated and you will see the following:

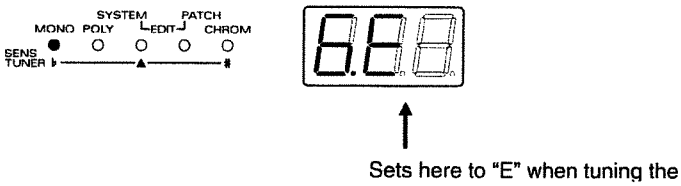


2. Play the sixth string of the guitar. The unit switches automatically to string number 6.

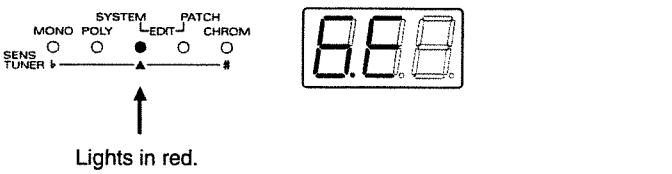
   -> The current (approximate) note name of the sixth string is shown in the display. (In the example in the illustration, it is D#.)



3. Tune the sixth string until you see the note name "E" appear in the display.



4. Next, make fine tuning adjusts while watching the group of five LEDs. When the LEDs change from green to red (and only the center LED lights), it indicates that the sixth string has been accurately tuned to "E."



5. Follow the same procedure for strings 5-1, as A, D, G, B, E respectively.

6. When tuning is complete, step on any pedal or press the S1 or S2 switch. This takes you back to the Play mode.

IMPORTANT! When shipped, standard pitch of the GR-09 was set at A=440.0 Hz. Should you need to make changes in the standard pitch, please refer to the procedure in 2-4 (p. 29).

1-3 Adjusting the Pickup Sensitivity

When setting up this unit for the first time to match your guitar, you must adjust the sensitivity for every string. (This is a one-time procedure as the settings you make here will be retained in the GR-09's memory even when the power is turned off.)

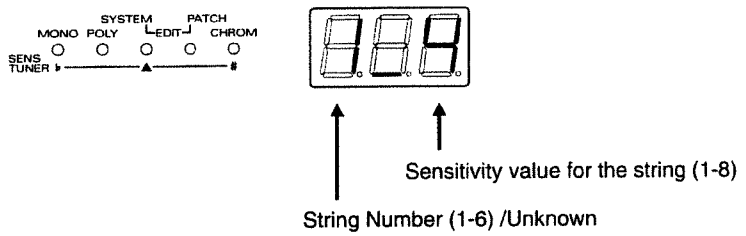
(Important Term) Divided Pickup

A divided pickup (like the pickup of the GK-2A) is one which can detect and respond to individual string vibrations.

<Procedure> Adjusting the Pickup Sensitivity

1. Press [EDIT/PLAY] from the Play mode (p. 14).

2. Set the [MODE] dial to "SENSITIVITY".
   → The sensitivity adjustment function is called up, and you will see the following:



3. When you play the sixth string on your guitar, the unit switches automatically to string number 6.
   → The LED group becomes a Level meter, with the indicators lighting in response to your playing strength.

4. Adjust the sensitivity (with the VALUE [+]/[-] buttons) so the right-most indicator turns green when you play hard. If the LED at the farthest right changes from green to red (overload), you need to lower the setting because it is too high.

5. Adjust the sensitivity of strings 5-1 in the same manner.

6. Press [EDIT/PLAY] once you have finished making the settings. You are returned to the Play mode.

IMPORTANT! You will need to make the sensitivity adjustments again in the following situations:

- ***When configuring the unit for use with a different guitar.***
- ***When all settings have been initialized (p. 30).***
- ***When the configuration of the GK-2A has changed because of adjustments made on the guitar (such as a change in string height).***

Moreover, even if you set the SENSITIVITY to the lowest value, some guitars may exceed the appropriate level. In this case, the space between the GK-2A and the strings of the guitar must be increased.

1-4 Play the Guitar and Hear the GR-09

Once you have finished connecting all your devices, and have adjusted the tuning and sensitivity, you are finally ready to actually try out the GR-09!

<Procedure> Playing a Patch (A11) Using the Guitar

1. Check that the GR-09 is in the Play mode.
2. Set the [*STRING SELECT] knob to any position **except MIDI (MUTE)**.

   * ***When set to MUTE, the GR-09 will not sound. (This means that the GR-09 is set to MIDI "Local Off." Refer to page 64.)***
3. Put the selection switch on the GK-2A at the "SYNTH" setting.
4. Set the GK-2A's volume (SYNTH VOL) at the maximum by rotating it all the way to the right (clockwise).
5. Set the [VOLUME] knob of the GR-09 somewhere near the midpoint.

   At this point, preparation for performance is complete. When you now play the guitar, the synth sound generator in the GR-09 will produce the sound of the selected Patch.

If it does not sound...

Check the volume setting on the amplifier, and the connections between all your devices (p. 13).

Getting the guitar sound to be output also...

Put the GK-2A's selection switch at the "MIX" setting. It can also be set to "GUITAR," in which case the generated synth sound will be muted, and only the guitar sound will be heard.

To alter the volume of the synth sound generator...

Adjust the SYNTH VOL knob on the GK-2A, or adjust the [VOLUME] knob on the GR-09.

IMPORTANT! When you rotate the [VOLUME] knob on the GR-09, the overall volume from MIX OUT changes. Therefore, when the guitar sound is also being output from MIX OUT, the volume of the guitar and the synth sound are altered together. However, the volume of the output from the GUITAR OUT jack will not change. Also, the volume of the guitar will not be affected by the SYNTH VOL knob on the GK-2A.

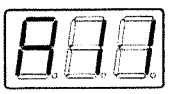
1-5 Switching Sounds

When the unit is working properly you are ready to start switching Patches and enter the world of guitar synthesis!

(Important Term) Patch

Patches are the 'units of sound' handled in the Play mode. You can easily switch to a different Patch whenever you wish. The GR-09 can store a maximum of 128 Patches.

In the Play mode, Patches are shown in the display as illustrated below.
Patch names are composed of 3 characters. The Patch shown in the example below is "A11."



Number from 1-4 (Pedal Number)

Number from 1-8 (Bank)

Letter: A, b, C, or d (Group)

Groups A and B (A11 to 84, B11 to 84) contain the 64 Preset Patches. (p. 77)
Groups C and D (C11 to 84, D11 to 84) provide 64 empty storage positions where you can write new Patches (User Patches).
(However, you can store your settings in Group A or B.)

[Further Information]

Patches can be selected in the Play mode using the VALUE [+]/[-] buttons.
With each press of [+] you can advance to the next Patch. Patches change continuously if you hold the button down. If you press its counterpart ([-]) at the same time, Patches change even more rapidly.
The [-] button works in the same way except that the Patch numbers decrease.

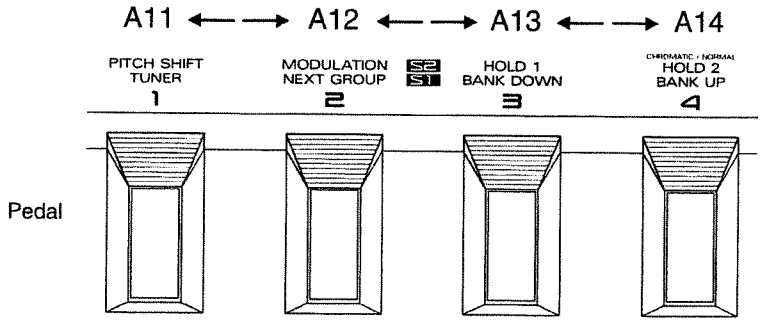
... A13, A14, A21, A22, A23, A24, A31, A32, ...D84

Select the various Preset Patches (using VALUE [+]/[-]) while you play your guitar.

About the Demo Function

The GR-09 contains a demo function which highlights the unit's great sounds. For details, please refer to p. 24.

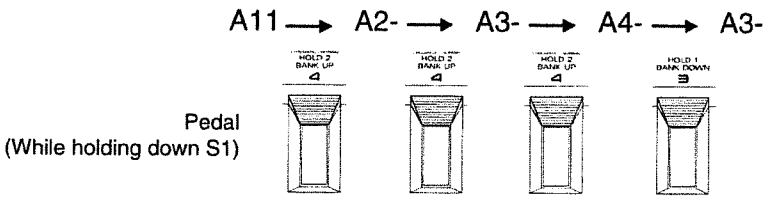
You can, of course, use the unit's four pedals to switch Patches. To switch to a Patch in the same Group and Bank as the one currently selected, simply depress a pedal from 1-4 (from the Play mode). The lower digit in the display will show the number of the Patch you just selected. In this way, you can quickly switch to any of the four Patches that are located within the same Group/Bank.



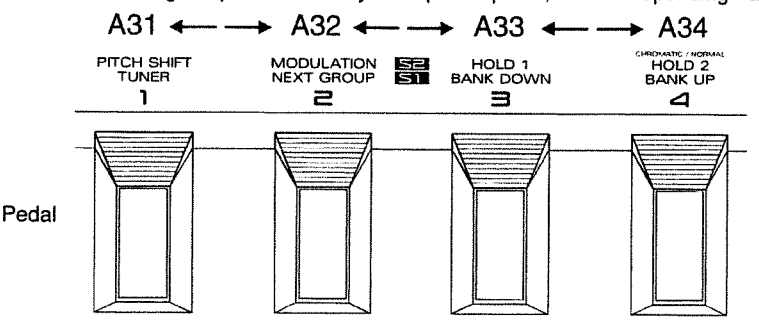
To select a Patch in a different Group/Bank using the pedals, follow these steps:

<Procedure> Using Pedals to Select Patches in a Different Group/Bank

1. While holding down the S1 switch on the GK-2A, step on the BANK UP (3) or BANK DOWN (4) pedal.
   While S1 is held down, Pedal 4 functions as the Bank Up pedal, and Pedal 3 becomes the Bank Down pedal.
   The display readout will start flashing and the middle digit will shift up or down each time you step on the corresponding pedal.



2. When you reach the desired Bank, release the S1 switch. You can then select the particular Patch you want from that Bank using the pedals. When you step on a pedal, the corresponding Patch is instantly selected.

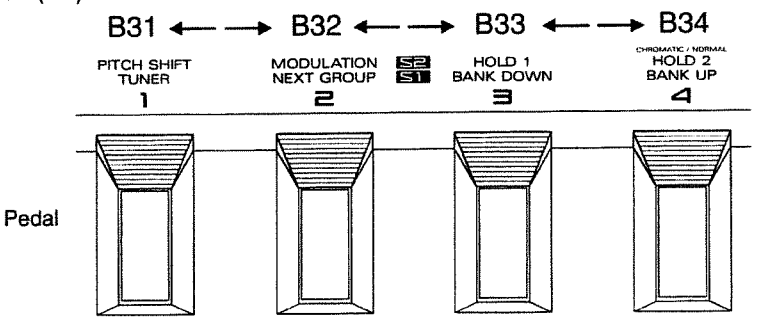


3. Should you also want to change the Group, depress the NEXT GROUP pedal (2) while holding down the S1 switch. While S1 is held down, Pedal 2 can be used to switch to the next Group. (Each time you step on it, you can advance to the next Group.)

A3_ → B3_ (Each time you step on it, you advance through C, D, A, B, C...)

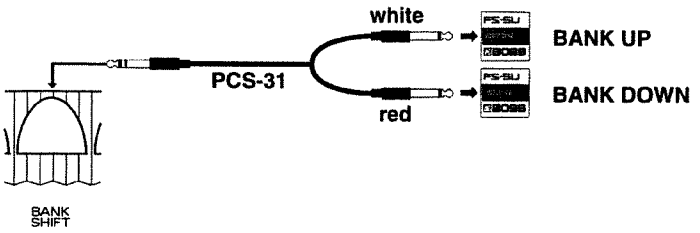
Pedal
(While holding down S1)

4. Once you have the desired Group/Bank selected, you can release the S1 switch. Then you can step on a pedal (1-4) to select the desired Patch.



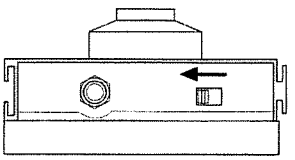
Pedal

You won't need to press the S1 switch to select Banks (Steps 1 & 2) if you connect a foot switch to the BANK SHIFT jack on the rear panel. Once you have the (optionally available) DP-5 connected there, you will be able to step on it to advance up through the Banks. Further, by combining two BOSS FS-5Us connected using a Y-cable (PCS-31; optionally available) you will gain foot control over switching Banks both up and down.



IMPORTANT! When you connect or disconnect footswitches, the Bank could change and the Patch could be placed in standby mode (flashing). This is not a malfunction. You can return to the original Patch if you first press the [+], then the [-] VALUE button.

** The Polarity Switch of the FS-5U must be set as follows:*



1-6 Try Applying Hold, Modulation and Pitch Shift Using the Pedals

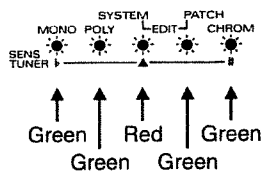
Using the pedals, you can also add a full range of effects to the synth sound. The following shows you how to add these effects (Hold, Pitch Shift, etc.).

(Important Term) Pedal Function Mode

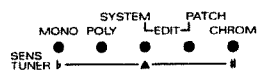
When in the Play mode, the four pedals are used mainly to switch Patches. When in the Pedal Function mode, the pedals can be used for controlling a number of effects, such as Hold. Once you enter the Pedal Function mode, you can select Pitch Shift, Modulation, Hold 1 or Hold 2. Press the S2 switch on the GK-2A to move from the Play mode to the Pedal Function mode.

<Procedure> Entering the Pedal Function Mode and Using the Four Pedal Functions

1. Press the S2 switch on the GK-2A while in the Play mode.
   You are now in the Pedal Function mode. "PdL" appears in the display, and the LED group flashes.

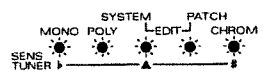


2. Depress (and hold) any pedal while you play your guitar. This causes the Pitch Shift, Modulation, or other effect to be applied to the synth sound, depending on which effect is assigned to the pedal you have depressed. (See the next page for details on each effect.) While the pedal is depressed, every LED will light green.

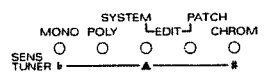


All light in green

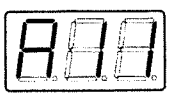
3. Release the pedal. The effect will disappear, and the indicator will begin flashing again.



4. Press S2 on the GK-2A. You are returned to the Play mode.



Goes out



← Patch

Note! ***When in the Pedal Function mode, you can change Patches using the [+]/[-] buttons. However, if the selected Patch has been edited, you cannot change Patches.***

The effects that can be obtained are as follows.

Pedal 1 PITCH SHIFT

The Pitch Shift effect not only shifts the pitch of the synth sound, it also provides a continuous pitch change. Because you can alter the pitch greatly while still preserving the harmony of chords (all the intervals), you can obtain a distinctive effect that is different from that obtained with a vibrato arm on a guitar.
You can select the amount of time and pitch alteration you need, as eight patterns are provided for both lowering and raising the pitch. Whichever you select, it can be stored as part of a Patch. (For how to make the selection, see p. 50.)

NOTE! ***The degree of change could be somewhat limited depending on the selected sound and the way in which the unit is being used.***

Pedal 2 MODULATION

When you step on the pedal for Modulation, a deep vibrato is applied to the notes that are being played. Unlike what you get with a finger vibrato playing style, this effect provides a truly synthesizer-like mechanical vibrato. With the GR-09, you can use either of these vibrato effects.

NOTE! ***The speed of the vibrato that you can obtain is already determined for every Tone (sound).***

Pedal 3 HOLD1

When you step on pedal 3, you cause the synth sound for strings that were already vibrating (at the moment the pedal was pressed) to be sustained — even after the strings have stopped vibrating. (Note that any synth sound that was already into its decay or reverb portion will not be sustained.) When you release the pedal, the sound stops.
While the Hold 1 pedal is down, what is played on the guitar will not be affected. This allows you to sustain chords with the synth sound while you solo over top.

Pedal 4 HOLD2

As with Hold 1, this effect allows you to sustain the synth sound for strings that were in the process of sounding — even after actual string vibration has stopped. When you release the pedal, the sound will stop. The difference between this and Hold 1 is that even without releasing the pedal, strings that were not sounding can be played. This allows you to, for example, sustain the synth sound for strings 5 and 6 while you go on to play a melody over top using strings 1-4.

1-7 Listening to Demonstration Play

The GR-09 provides a "Demonstration Play" feature that introduces the Preset Patches. It provides a good opportunity for you to listen to some representative examples of the unit's 64 Preset Patches, since they are played automatically one after the other using simple phrases. Try it out by following the steps below.

<Procedure> Listening to Demonstration Play

1. First, turn the unit off.
2. With Pedal 1 depressed, turn the power on.
3. Check that "Stb" (Standby) has appeared in the display, then press the [EDIT/PLAY] button. After "PLy" is shown in the display, automatic play will begin.
4. Try pressing the [+]/[-] VALUE buttons during automatic play. This causes a change to the next (or previous) phrase, from which point play will continue.
5. Once again press [EDIT/PLAY]. Automatic play stops.
6. To return to the unit's normal state, turn the power off and then on again.

Chapter 2

Basics
GR-09 Layout and Fundamental Operations

<Purpose of This Chapter>

Chapter 2 will introduce a number of basic operations you should know. These include the re-arrangement of Patches, and the tuning of the internal sound generator. Even if you have already convinced yourself that you do not want to get into making Patches on your own, and have decided to stick to using only the Preset Patches, you should still read this chapter so you are at least aware of some of the helpful information it contains.

2-1 The Difference Between the Play and Edit Modes

In addition to the Play and Pedal Function modes introduced in Chapter 1, the GR-09 also offers another mode, the Edit mode.

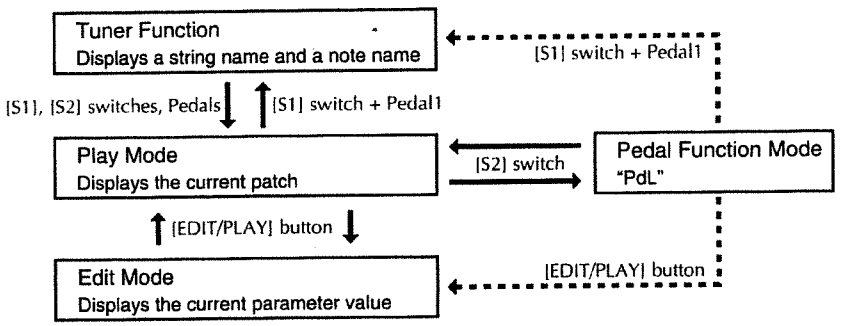
(Important Term) Edit mode

After you have selected a suitable Patch in the Play mode, you can then press [EDIT/PLAY], and either the EDIT SYSTEM or EDIT PATCH indicator in the LED group will light. The GR-09 is in the Edit mode.
Once in the Edit mode, you can select what you want to edit using the [MODE] dial or the [PATCH PARAMETER] dial. Then you can make changes in the settings using the [+]/[-] buttons.
Once again press [EDIT/PLAY] to return to the Play mode (the EDIT LED will go out).

*IMPORTANT! **Whenever you make changes in Patch settings (described in Chapters 3 and 4), the EDIT PATCH indicator will flash. In such cases, the indicator will continue flashing even if you return to the Play mode. The unit does this to warn you that even though the contents of a Patch have been changed, a Patch Write has not yet been carried out.***

* ***When adjusting the SENSITIVITY, "EDIT PATCH" will not light because the 5 LEDs are functioning as a level meter.***

Mode Relationship



2-2System Parameters and Patch Parameters

"Parameters" are all the different kinds of settings that can be changed in the Edit mode. These include sensitivity, sound selection, amount of reverb, etc. They can be divided into System parameters and Patch parameters.

The value for a System parameter is automatically stored in memory whenever it is changed. It remains stored in memory even when the power is turned off. There are four **System parameters** :

MASTER TUNE
SENSITIVITY
MIDI CHANNEL (Transmission Mode)
BEND RANGE: MIDI Transmission/Reception Bend Range

All parameters — other than the above — are Patch parameters. They can be stored separately within each of the 128 Patches, and selected whenever required.

IMPORTANT! The changes you make in the settings for a Patch parameter are not automatically stored in memory. When you want to save your changes, you need to carry out the "Write" procedure. If you turn off the unit, or go back to the Play mode and switch to another Patch (without first performing a Write), your changes will be lost.
To store the edited Patch at the original (same) Patch number, rotate the [MODE] dial to "WRITE" (while in the Edit mode), then simultaneously press [+] and [-].

2-3 Altering the Order of Patches

In the course of using Preset Patches, you will probably find a number of Patches that work best for you at certain times, such as for an intro or an interlude. If such Patches happen to be at locations that are distant from each other, switching between them may be quite involved. However, the GR-09 allows you to rearrange the order of Patches. This means that you could put two favorite Patches in the same Group and Bank (such as B21 and B22). Afterwards, a single step on a pedal can take you to the Patch you need.

You can use the "Write to..." function (in the Edit mode) to rearrange Patches. It allows you to specify the location (Patch number) where you want the data for the currently selected Patch (or one being edited) to be stored.

<Procedure > Rearranging Preset Patches

Example: Exchanging the contents of A21 with that of B62 . . .

First of all, to assure that the content of Patch A21 is not lost, it needs to be temporarily moved to some other Patch location, one that is not being used (C11). Afterwards, by writing B62 → A21, and C11 → B62, A21 and B62 will have successfully been switched around.

1. Press [EDIT/PLAY] while you have Patch A21 selected from the Play mode. You are now in the Edit mode.

2. Set the [MODE] dial to "Write to....."
   "A.2.1" will be shown as the Write destination number.

3. Press the [+] or [-] button. What is shown for the write destination will change. Get "C.1.1." to be displayed, thus selecting the empty location C11.

4. Rotate the [MODE] dial to "WRITE," then press [+] and [-] simultaneously. "Ent." (Enter) appears in the display. When the unit has finished writing the Patch, it automatically returns to the Play mode.

5. Repeat steps 1-4 above, this time writing B62 → A21, the same way you did for A21 → C11.

6. Now you can write C11 → B62, and the rearrangement is complete.

2-4 Tuning to Another Instrument

The GR-09 allows you to set the unit's overall pitch so you can tune to other instruments or recorded music. When you make changes in Master Tune, the standard pitch of the Guitar Tuner also changes. In addition, the pitch of the synth sound will be tuned to the specified pitch if the unit is set to CHROMATIC ON (p. 40).

<Procedure> Changing the Master Tune

1. Press [EDIT/PLAY] from the Play mode. This puts the unit in the Edit mode.
2. Rotate the [MODE] dial to "MASTER TUNE". The last three digits for the pitch (in hertz) of middle A will be displayed, as shown below.

A=440.0 →

A=438.2 →

A=442.0 →

3. Set the desired value using [+]/[-]. (When you first take the unit out of the box, A = 440.0 Hz.)
4. Once again press [EDIT/PLAY]. You are returned to the Play mode.

NOTE! ***Because Master Tune is a System parameter, you don't need to carry out the Write procedure.***

2-5 Restoring All the Settings the Unit Had When It Was New

The GR-09 allows you to restore all the Preset Patches (in original factory order) even after you have edited or rearranged many of them.
When you carry out the steps below, only Patch Groups A and B (where all the Preset Patches originally were located) will be initialized (returned to factory settings). Afterwards, you will be able to access all the factory Preset Patches. All Patches in Groups C and D and the System parameters will not be affected.

<Procedure> Restoring Preset Patches (Groups A/B)

1. If there are any of your own Patches in Group A or B that you do not want to be erased, you need to move them to Group C or D. (This can be done in the same way as described in "Rearranging Preset Patches," p. 28.)
2. Turn the unit off.
3. With Pedal 2 depressed, turn on the GR-09. "PAt." (Patch) will appear in the display.
4. Press [EDIT/PLAY]. "Ent." will be displayed, and the Preset Patches are called up. Once completed, the unit automatically goes back to the Play mode, and is ready for normal operation.

You can also initialize all the System parameters and Patch parameters (returned to the original factory settings).

*IMPORTANT! **All the data you have created will be lost once you carry out the initialization. If there is any data in the unit that you wish to save, transfer it to a MIDI sequencer, where you can then store it on floppy disk (p. 65). Another option would be to simply write down the panel setting on paper.***

<Procedure> Initializing All Settings

1. Turn off the GR-09.
2. With Pedal 2 depressed, turn the unit on. "PAt." (Patch) will be displayed.
3. Press [+].
   "ini." (Initialize) will now appear in the display.
4. Press [EDIT/PLAY]. "Ent." (Enter) appears in the display and the initialization is carried out.

   Once completed, the unit automatically returns to the Play mode, and is ready for normal operation.

Chapter 3

Patch Editing (1)
. . . Basic Sound Editing

<Purpose of This Chapter>

You should now be able to select and play the Preset Patches. Next, you can try to create your own Patches that perfectly match the music you intend to play. This chapter explains the various the Patch parameters. It also provides instructions on editing sounds.

3-1 Patches and Tones

(Important Term) Tone (Original Tone)

When creating new sounds for the GR-09, you first need to choose a sound that is similar to what you ultimately have in mind. This sound can be used as the basis for your new sound. You simply need to edit it so it better suits the intended mood or playing style. The 180 sounds provided by the GR-09 are known as "Original Tones," or sometimes simply as "Tones."

* ***The number of Original Tones can be expanded to a total of 360 using a special Expansion Kit (GR9E-1: optionally available) (p. 74).***

Tones and Patches are both units of sound. They differ, however, in the following ways:

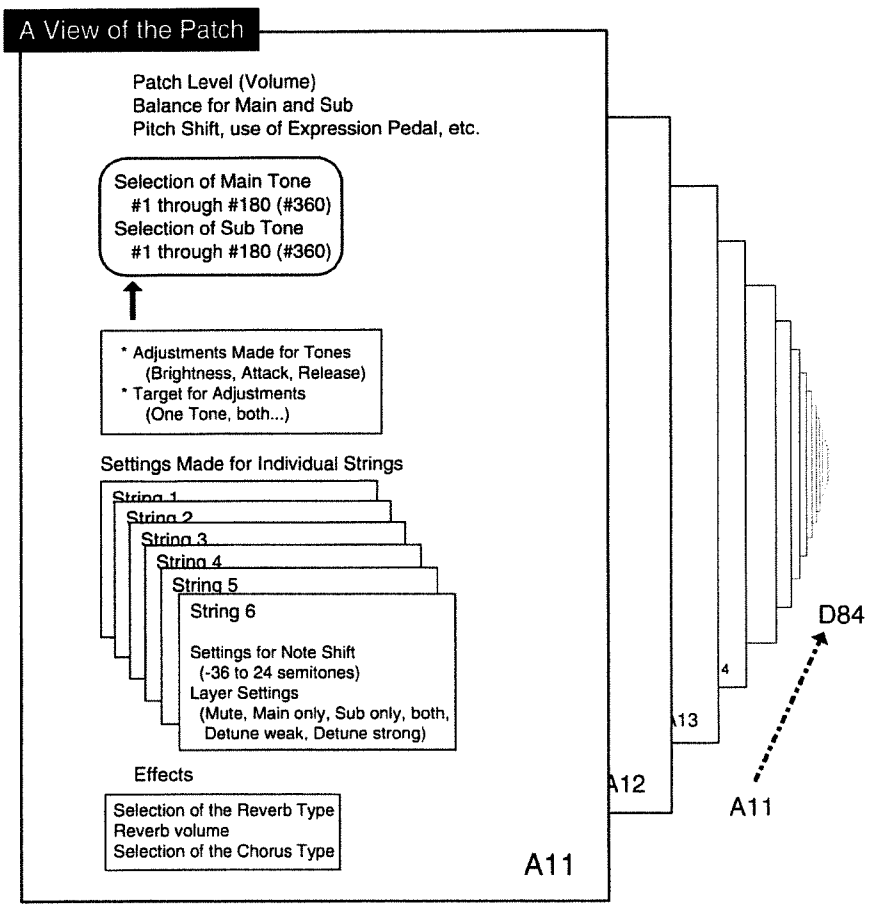
Tones

There are 180 basic sounds, such as "Synth Lead," "Nylon Guitar," and "Organ" in the GR-09.
When in the Edit mode, and you set the dial to the appropriate position, the [+]/[-] buttons can be used to select these Tones (p. 33).

Patches

A Patch is a single Tone, or combination of two Tones, that has been further enhanced with various parameter settings (for effects, for example). Patches can be edited any way you want in order to achieve the best sound for a particular musical situation.
The GR-09 allows for a maximum of 128 Patches to be stored in memory.
Patches can be selected from the Play mode using the pedals.

A maximum of two Tones (from the Original 180) can be selected for each Patch. They can also be assigned to individual strings, and can be sounded while layered together. Of the two Tones that can be selected for a Patch, the first is known as the Main Tone, and the other as the Sub Tone.



3-2Selecting an Original Tone for a Patch

The sound that will be produced by a Patch is determined primarily by the choice of Original Tones for the Main Tone/Sub Tone. To try your hand at creating Patches, first choose an empty Patch location, then try selecting a Main Tone.

<Procedure> Selecting the "Main Tone" That Is To Be Assigned to a Patch

1. Select an empty Patch from the Play mode. (When new, C12 should do.)
2. Press [EDIT/PLAY]. This puts you in the Edit mode.
3. Set the [MODE] dial to "PATCH EDIT1".
4. Set the [PATCH PARAMETER] dial to MAIN TONE#. "1" is shown in the display, which tells you that Original Tone No.1 is currently selected as the Main Tone. You can play the guitar to check out the sound if you wish.
5. Press [+]/[-] while listening to the sounds to continue looking for the Tone you want.
6. Once you find the Tone that you want to use, switch the [MODE] dial to "WRITE". "C.1.2." will be displayed.
7. Press [+] and [-] simultaneously to perform the Write.

   By doing so, the selected Original Tone was assigned as the Main Tone for Patch C12. Afterwards, you automatically are returned to the Play mode.

To select a Sub Tone. . .

This is done in basically the same way as with the Main Tone. However, in step 3 you need to have the [MODE] dial set to "PATCH EDIT2", and in step 4, the [PATCH PARAMETER] dial should be switched to "SUB TONE#". Note, however, that empty Patches are set so only the Main Tone will be heard. Before carrying out the above, change the setting for Layer (p. 36) so the Sub Tone can be heard as well.

3-3 Changing a Sound's Attack, Release and Brightness

Next, you should try adding some modifications to the Main Tone that was selected on the previous page (3-2). The GR-09 provides three parameters which can be used to make changes in a Tone: Attack, Release and Brightness.

<Procedure> Altering Attack, Release, or Brightness

1. Select the Patch you want to edit from the Play mode.
   For our purposes, select C12 (the new Patch we are creating).

2. Press [EDIT/PLAY]. This puts you in the Edit mode.

3. Set the [MODE] dial to "PATCH EDIT1".

4. Set the [PATCH PARAMETER] dial to the item you want to change; "ATTACK", "RELEASE", or "BRIGHTNESS".
   The current value is shown in the display, within the range of -50 to 50.

5. Press [+]/[-] to alter the value while you play the guitar to check the sound.

6. Once you have the desired sound, switch the [MODE] dial to "WRITE", then press [+] and [-] simultaneously. Your changes have now been written into the Patch.

IMPORTANT! ***If you don't specify a Write destination, the original version of the Patch will be lost when you carry out step 6 above. When you want to save the original version of the Patch as well, after step 5, move the [MODE] dial to "Write to...," then use the [+]/[-] buttons to select a different destination Patch (one you don't mind having erased). You can then go on to step 6.***

NOTE! ***Depending on the setting of Edit Target, you cannot edit Sub Tones mentioned above (p. 48).***

Effects that can be obtained by making changes in attack, release, and brightness.

The effects that can be obtained (with the parameters selected using step 4 on the previous page) are as follows. Try changing the values to hear for yourself how they affect the sound. The range within which they can be set is -50 to 50. When you set the value to 0, the Tone will be heard in its original form. The actual degree of modification in the sound that will be perceived will vary from Tone to Tone.

ATTACK

This parameter lets you alter the attack time. By increasing the value (in the + direction), you cause the sound to go through a longer attack. When you lower it (by entering a - value), you get a fast, percussive-like attack.

RELEASE

This parameter is used to modify the length of the sound's release.
With higher values (in the + range), the synth sound will continue sounding after the strings have stopped vibrating and then decay gradually. When you lower the value, the strings will be muted fairly early on, then decay rapidly at the same time.

BRIGHTNESS

This parameter setting alters the brightness of the sound.
The more you increase the value in the + direction, the brighter the sound becomes. The Tone becomes more subdued when you lower the value. (Depending on the Tone, the actual effect obtained will be slightly different.)

These settings ordinarily work for both the Main and Sub Tones, but you can applied them to only the Main Tone when necessary. If you wish to do so, change the setting of Edit Target (to "Sin" or "int") (p. 48)

3-4 Setting Layering and Detune for Both Main and Sub Tones

As mentioned earlier, two Tones can be selected for a single Patch. How these Tones will perform together is determined by the LAYER Patch parameter.
The Layer parameter offers six different choices: Mute, Main Only, Sub Only, Both, Detune (Weak), and Detune (Strong). With the Detune settings, both Tones will be heard, but one of them will be detuned slightly with respect to the other, producing a fatter sound. "Strong" of course offers a detuned effect that is more pronounced than "Weak."
The settings can be made to apply to all strings at the same time, or only to specific strings. You could, for example, divide strings 1-4 and strings 5-6 into two different playing areas, with different Tone setups for each.

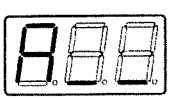
<Procedure> Making the Layer Setting for Main and Sub Tones

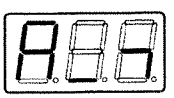
1. Select the Patch you want to edit from the Play mode.

2. Press [EDIT/PLAY]. You are now in the Edit mode.

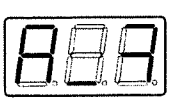
3. Set the [MODE] dial to "PATCH EDIT1", then set the [PATCH PARAMETER] dial to "*LAYER".

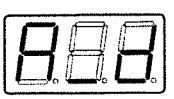
4. Set the [*STRING SELECT] knob to "ALL" (all strings). The six possible settings for Layer appear in the display as shown below. The first column shows the string number, with "A" meaning ALL.

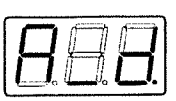

(Muted)


(Main Only)

(Sub Only)


(Both)


(Detune Weak)


(← The period lights)
(Detune Strong)

5. Press [+]/[-] to make the setting for all strings at the same time. If you wish to make independent settings for each string, switch the [*STRING SELECT] knob to 6-1. The first column (string number) in the display changes to reflect the string number you selected, and when you then press [+]/[-], the setting for Layer will affect only that string.
(After that, if you set the [*STRING SELECT] knob to "ALL," the readout will flash. This shows that each string setting is not same.)

6. Once you have the settings completed to your satisfaction, set the [MODE] dial to "WRITE", then press [+] and [-] simultaneously. Your changes have now been written into the Patch.

IMPORTANT! If you don't specify a Write destination, the original version of the Patch will be lost when you carry out step 6 above. When you want to save the original version of the Patch as well, after step 5, move the [MODE] dial to "Write to...," then use the [+]/[-] buttons to select a different destination Patch (one you don't mind having erased). You can then go on to step 6.

*NOTE! At step 5 above, when setting the [*STRING SELECT] knob to "MIDI," the display will read "On" or "OFF." You can set whether the GR-09 transmits the performance messages or not to the external Sound Module by pressing [+]/[-].*

3-5 Shifting the Scale for the Synth Sound Respective to the Guitar Sound (Note Shift)

Ordinarily the pitch of the GR-09's synth sound will be the same as that of the guitar. Whenever necessary, however, you can shift the pitch in semitone units. The function which offers this is referred to as NOTE SHIFT. Using this feature, you can do things such as create Patches which add on a synth sound that is one octave higher or lower than the guitar sound. You can also make separate Note Shift settings for each of the strings.

<Procedure> Setting Note Shift

1. Select the Patch you want to edit from the Play mode.
2. Press [EDIT/PLAY]. This puts you in the Edit mode.
3. Set the [MODE] dial to "PATCH EDIT1", then set the [PATCH PARAMETER] dial to "*NOTE SHIFT".
4. Set the [*STRING SELECT] knob to "ALL" (all strings). The Note Shift value is shown in the display.
5. Press [+] or [-]. The settings for all strings change simultaneously (within the range of -36 to 24). Next, you should set the selection switch on the GK-2A to MIX, then adjust the setting while playing the guitar.
6. When you want to make the setting independently for each string, set the [*STRING SELECT] knob to 6-1. The first column (the string number) will show the number currently selected.
   (At this time, if you set the [*STRING SELECT] knob to "MIDI," you can affect the performance data which is output to an external device.)
7. Press [+] or [-]. Whatever changes you now make in the setting for Note Shift will affect only the selected string.
   (After that, if you set the [*STRING SELECT] knob to "ALL," the display will flash. This indicates that every string setting is different.)
8. Once you have the settings completed to your satisfaction, set the [MODE] dial to "WRITE", then press [+] and [-] simultaneously. This writes your changes into the Patch.

IMPORTANT! ***If you don't specify a Write destination, the original version of the Patch will be lost when you carry out step 8 above. When you want to save the original version of the Patch as well, after step 7, move the [MODE] dial to "Write to...," then use the [+]/[-] buttons to select a different destination Patch (one you don't mind having erased). You can then go on to step 8.***

Other than having settings for Note Shift be applied to both the Main and Sub Tones, you can also have such settings apply to only the Sub Tone if you change the Edit Target (p. 48). This allows you to make Patches which use two synth sounds that are shifted in pitch with respect to each other.

IMPORTANT! ***Certain Note Shift settings could be restricted in the upper region (such as with slide-ups, etc.) due to limits on the range of pitch change.***

NOTE! ***Depending on the setting of Edit Target, the Note Shift will not affect the Main Tone. If necessary, change the Edit Target setting (p. 48).***

3-6 Adjusting the Volume Balance of Both Main and Sub Tones

When a Main Tone and a Sub Tone are to be sounded while layered together, you need to adjust the volume balance between them. This can also be set using the TONE BALANCE Patch parameter.

<Procedure> Adjusting the Volume Balance: Main/Sub Tones

1. Select the Patch you want to edit from the Play mode.
2. Press [EDIT/PLAY]. You are now in the Edit mode.
3. Set the [MODE] dial to "PATCH EDIT1", and set the [PATCH PARAMETER] dial to "TONE BALANCE". The value for the balance is shown in the display. The available range is -50 to 50.
4. Press [+] or [-] and change the value. At around 0, there is almost no change in the volume. The volume of the Main Tone increases as the value gets closer to 50, while the Sub Tone volume is increased the more the value approaches -50.
5. Once you have the settings completed to your satisfaction, set the [MODE] dial to "WRITE", then press [+] and [-] simultaneously. Your changes have now been written into the Patch.

IMPORTANT! ***When you want to save the original version of the Patch as well, transfer it to another location before you begin editing (p. 28).***

NOTE! ***When setting this parameter, you should set Layer (p. 36) so both Tones (Main Tone and Sub Tone) will sound.***

3-7 Saving Volume Settings for Each Patch

In fine-tuning the Patches you use regularly, you may want to set the volume of 'backing' Patches lower than the volume of 'solo' Patches. The unit allows you to conveniently save volume settings in every Patch through the PATCH LEVEL parameter.

<Procedure> Setting the Volume for Each Patch

1. From the Play mode, select the Patch you wish to edit.
2. Press [EDIT/PLAY] to get into the Edit mode.
3. Set the [MODE] dial to "PATCH EDIT1" and set the [PATCH PARAMETER] dial to "PATCH LEVEL". The current value for the balance is shown in the display. The available range is 0-100.
4. Press [+] or [-] to set the value so you have the desired volume. It is better to set the highest value possible in the interest of reducing noise, except, of course, when lower values are required.
5. Once you have it set the way you want, switch the [MODE] dial to "WRITE", then press [+] and [-] simultaneously. Your changes have now been written into the Patch.

IMPORTANT! When you want to save the original version of the Patch as well, transfer it to another location before you begin editing (p. 28).

3-8 Discrete Pitch Fluctuations/ Emulating Instruments Like the Piano

The GR-09 faithfully reproduces the minute fluctuations in pitch that are normally produced through the pressure applied to strings, and other factors. But it can also be set so pitch changes occur only in discrete semitone units. This allows you to create Patches which are designed to be sounded in a manner similar to 'fixed-pitch' instruments (like the piano). (The finer pitch distinctions will not be expressed.) This is referred to as the CHROMATIC function.

<Procedure> Turning Chromatic On So Pitch Changes Are in Semitone Units

1. Select the Patch you want to edit from the Play mode.
2. Press [EDIT/PLAY]. This puts you in the Edit mode.
3. Set the [MODE] dial to "PATCH EDIT2" or "PATCH EDIT1".
4. Depress Pedal 4 (CHROMATIC/NORMAL). The "CHROM" indicator (the right-most LED in the group next to the display) lights, showing that the unit is now set to "Chromatic."
   When you step on Pedal 4 again, you are returned to normal pitch.
5. When you have the desired operating mode selected, switch the [MODE] dial to "WRITE", then press [+] and [-] simultaneously. This writes your changes into the Patch.

IMPORTANT! ***When you want to save the original version of the Patch as well, transfer it to another location before you begin editing (p. 28).***

NOTE1 ***In the Play mode, the CHROM LED will not light — even when the function is active.***

NOTE2 ***MIDI Bend messages received from an external device will cause the selected Patch to sound using small pitch fluctuations — even if the CHROMATIC function is set for that Patch. If you wish to have the GR-09 ignore Bend message, you should set the Bend Range to "0." (p. 58)***

Chapter 4

Patch Editing (2)
. . . Editing Effects and Pedal Functions

<Purpose of This Chapter>

In addition to the parameters explained in the previous chapter, you can also store expression pedal settings in a Patch, and settings for the two groups of effects (Reverb and Chorus) that the unit provides for use with the synth sound. The following explains how to make the settings for these parameters.

4-1 Selecting the Reverb Type and Setting the Reverb Volume

Reverb is an effect that simulates the acoustic response in a large enclosed space — a concert hall, for example.
When using the GR-09's Reverb effects, you first need to select one of the 31 Preset Reverb Types (REVERB TYPE), then set its volume level. Some of the selections offer a delay-type effect, so you can also obtain a repeating, echo-like sound. (Select OFF when you want to eliminate reverb.)

<Procedure> Changing Settings for the Reverb Type and Reverb Volume

1. From the Play mode, select the Patch for which you want to make settings for Reverb.
2. Press [EDIT/PLAY]. You are now in the Edit mode.
3. Set the [MODE] dial to "PATCH EDIT2".
4. Switch the [PATCH PARAMETER] dial to "REVERB TYPE".
5. Press [+]/[-] while you play. Listen to the different effects until you find the one you want. For information on what is shown in the display, and an explanation of the different types of effects available, refer to the next page.
6. Switch the [PATCH PARAMETER] dial to "REVERB LEVEL".
7. Press [+]/[-] to set the desired reverb volume. The available range for the value is 0-100.
8. After you have achieved the desired settings, switch the [MODE] dial to "WRITE", then press [+] and [-] simultaneously. Your changes have now been written into the Patch.

IMPORTANT! When you want to save the original version of the Patch as well, transfer it to another location before you begin editing (p. 28).

Effect Obtained from Each Reverb Type (31 types)

The following reverb types are available.

OFF : Reverb is not obtained.

Room Group

ro1 to 3: Provides the reverberation of a relatively small room. The reverberation time gets longer as you switch from 1 to 3.
ro4 to 6: Provides the reverberation of a medium-sized room. The reverberation time gets longer as you switch from 4 to 6.
ro7,ro8 : A room simulation that is very short and dense (2 settings).

Hall Group

HL1 to 3: Provides the reverberation of a medium-sized hall. The reverberation time gets longer as you switch from 1 to 2 and then 3.
HL4 to 6: Provides the reverberation of large hall. The reverberation time increases as you switch from 4 to 6.

Plate Reverb

PL1 to 3: These settings recreate the effect obtained from a reverb system in which signals are generated by the vibrations of an actual suspended steel plate. These settings add a distinctive luster or sparkle to the sound. The reverberation time gets longer as you switch from 1 to 3.

Delay

dL1 to 8: Provides a delay effect to which feedback (the repeated sound) has been added several times. There are 8 settings, with the delay time and number of repetitions being different for each.

Panning Delay

Pd1 to 6: Offers a specialized delay effect which causes the repeated sound to be output alternately from L and R of MIX OUT. There are 6 settings, with the delay time and number of repetitions being different for each.

4-2 Setting the Way Chorus Is to Be Applied

Chorus is an effect that provides a sense of expansive presence, with characteristic undulations in the sound. The effect also makes it seem as if a multiple number of instruments are playing together.
When using the GR-09's Chorus effects, you first need to select one of the 25 Preset Chorus Types (CHORUS TYPE). Depending on the type you select, you can obtain a flanger effect (metallic and biting), or a very-short delay type effect. Select OFF when you prefer not to have any chorus.

<Procedure> Selecting the Chorus Type

1. From the Play mode, select the Patch you want to make Chorus settings for.
2. Press [EDIT/PLAY]. You should now be in the Edit mode.
3. Set the [MODE] dial to "PATCH EDIT2".
4. Set the [PATCH PARAMETER] dial to "CHORUS TYPE".
5. Press [+]/[-] while you play. Listen to the different effects and select the one you want to use. For information on what is shown in the display, and an explanation of the different types of Chorus available, refer to the next page.
6. Switch the [MODE] dial to "WRITE", then press [+] and [-] simultaneously. Your choice for the Chorus Type has now been written into the Patch.

* ***The volume of the Chorus effect is already determined for each type.***

IMPORTANT! When you want to save the original version of the Patch as well, transfer it to another location before you begin editing (p. 28).

Effect Obtained from Each Chorus Type (25 types)

The following Chorus effects are available.

OFF : Chorus is not obtained.

Chorus Group

Cr1 to 3: A conventional chorus effect. The undulations in the sound becomes faster as you switch from 1 to 3.
Cr4 to 6: A deep chorus effect. The undulations become faster as you switch from 4 to 6.
Cr7 to 9: An effect providing natural expansiveness with fewer undulations. The effect gets more pronounced as you switch from 7 to 9.

Flanger Group

FL1 to 3: A fairly shallow flanger effect. The wavering in the sound becomes faster as you switch from 1 to 3.
FL4 to 6: A powerful flanger effect with a prominent metallic resonance. The wavering in the sound becomes faster as you switch from 4 to 6.
FL7,FL8 : Provides a delicate flanger effect that is similar to that of chorus. 8 is faster than 7.

Short Delay

Sd1 to 6: A very short delay effect. There are 6 settings, with the delay time and number of repetitions being different for each.

Special Effects

SE1, SE2 : Add special effects sounds to the synth sound. (2 settings)

4-3 Selecting Your Playing Preferences

A guitar, unlike a keyboard, allows for the precise control over a sound's intensity. This is because you can actually touch the vibrating portions (the strings) of the instrument. In the interest of using this difference to the best advantage, a guitar synthesizer should allow you to choose the way it will respond depending on how the guitar is played. The GR-09 allows you to do this through its PLAY FEEL Patch parameter. It allows you to obtain a more natural degree of control over the intensity of sounds by changing the Play Feel to match your playing style (such as whether you use your fingers or a pick).

<Procedure> Selecting Play Feel

1. Select the Patch that you want to make settings for from the Play mode.
2. Press [EDIT/PLAY] to get into the Edit mode.
3. Set the [MODE] dial to "PATCH EDIT2".
4. Set the [PATCH PARAMETER] dial to "PLAY FEEL".
5. Press [+] or [-] to select the desired setting. For information on what is shown in the display and the different kinds of Play Feel, see the following page.
6. Switch the [MODE] dial to "WRITE", then press [+] and [-] simultaneously. Your selection for the Play Feel is written into the Patch.

IMPORTANT! When you want to save the original version of the Patch as well, transfer it to another location before you begin editing (p. 28).

The effects that can be obtained by changing the Play Feel (6 types)

The following types of Play-Feel are available.

nor ...(Normal)

The standard setting, this is suitable for playing using conventional picking techniques.

Fin ...(Finger Picking)

This setting allows you to obtain a feel that is the most appropriate for finger picking. When using this setting, the sensitivity will be somewhat greater than normal.

Hrd ...(Hard Picking)

This setting is suitable for those who tend to use the pick with a slightly harder technique. The sensitivity is slightly lower.

* ***When the GK-2A is installed a little too close to the strings (due to the guitar's construction), you can sometimes compensate using this setting.***

SFt ...(Soft Picking)

This setting is suitable for those who tend to use the pick with a slightly softer technique. The sensitivity will be set slightly higher than normal.

tAp ...(Tapping Play)

This setting provides greater pitch stability when using less conventional playing techniques such as fingerboard tapping, pull-offs, or hammer-ons. Note, however, that the range over which volume can be expressed is somewhat narrower.

no.d ...(No Dynamics)

Regardless of your playing strength, this setting causes the volume and timbre to remain constant. The setting is useful when you intentionally want to have a Tone (such as synth lead or organ) be played without any dynamics.

4-4 Editing a Single Tone (Edit Target)

For Attack, Release, Brightness, and Note Shift you can choose whether you want your setting changes to apply to both the Main and Sub Tones at the same time, or to only one Tone (Main or Sub). The Patch parameter which provides this choice is known as the EDIT TARGET parameter.

<Procedure> Selecting the Edit Target

1. Select the Patch that you want to make settings for from the Play mode.
2. Press [EDIT/PLAY]. You should now be in the Edit mode.
3. Set the [MODE] dial to "PATCH EDIT2".
4. Set the [PATCH PARAMETER] dial to "EDIT TARGET".
5. Press [+] or [-] and select your choice for the setting. For information on what is shown in the display and the kinds of settings, see the following page.
6. Switch the [MODE] dial to "WRITE", then press [+] and [-] simultaneously. Your selection for the Edit target is written into the Patch.

IMPORTANT! When you want to save the original version of the Patch as well, transfer it to another location before you begin editing (p. 28).

The results obtained by changing the Edit Target (4types)

The following types of Edit Target are available. The way editing is to be applied will change the Attack, Release, Brightness, or Note Shift.

dUL (Dual)

The Main and Sub Tones will be affected when the four parameters mentioned above are edited.

Sin (Single)

Parameter editing will apply to only one Tone. Only the Main Tone is affected when altering Attack, Release, or Brightness. Only the Sub Tone is affected when altering Note Shift.

int (Interval)

Except for Note Shift, the parameters for both Tones will be affected. Changes in Note Shift will apply to only the Sub Tone.
This setting conveniently allows you to layer the same synth sound for both Main and Sub Tones, while shifting the pitch of one of them by an octave or a fifth (for example).

Un.b (Unison Bass)

Except for Note Shift, only the parameters for the Main Tone will be affected. Changes in Note Shift will apply to both Tones.
This setting conveniently allows you to lower the sound of both the Main and Sub Tones to create a synth bass Patch.

4-5 Pitch Shift

As explained in 1-6 (p. 22), the Pedal Functions allow for continuous pitch fluctuations to be applied to the synth sound. A selection of 8 patterns for pitch shifting are available. Each pattern offers a different kind of pitch change (length it is to occur, which pitches are to be changed etc.), and can be used for raising or lowering the pitch. The setting you choose can also be stored as part of a Patch.

<Procedure> Selecting the Way pitch Shift Is to Be Applied

1. From the Play mode, select the Patch that you want to make settings for.
2. Press [EDIT/PLAY] to get into the Edit mode.
3. Set the [MODE] dial to "PATCH EDIT2".
4. Set the [PATCH PARAMETER] dial to "PITCH SHIFT".
5. Press [+] or [-] to select the desired setting. For information on what is shown in the display and the kinds of settings, see the following page.
6. Switch the [MODE] dial to "WRITE", then press [+] and [-] simultaneously. Your selection for Pitch Shift is written into the Patch.

IMPORTANT! When you want to save the original version of the Patch as well, transfer it to another location before you begin editing (p. 28).

The results obtained by changing Pitch Shift

The following types of Pitch Shift are available. Since each of them can be used for shifting the pitch up or down, there are a total of 16 effects that can be obtained.
In the display, the unit will distinguish among them in this way: "Up, Type 5" is shown as "uP5" and "Down, Type 3" is "dn3."

1: When you step on the pedal, the pitch shifts by a perfect fourth. When you release the pedal, the original pitch returns.

2: The same as with 1, the pitch changes by a perfect fourth, but the time over which it occurs will be longer.

3: When you step on the pedal, the pitch shifts by a perfect fifth. When you release the pedal, the original pitch returns.

4: When you step on the pedal, the pitch shifts by an octave. When you release the pedal, the original pitch returns.

5: This setting also provides for a shift in the pitch by an octave, but it will take a slightly longer time to do so. (However, the return to the original pitch takes the same length of time as in type 4.)

6: This effect provides a one-octave change in pitch, but takes a considerably longer time — both in reaching the new pitch and when returning to the original one.

7: When you step on the pedal, the pitch shifts by two octaves. When you release the pedal, the original pitch returns.

8: Provides a two-octave change in pitch, but is very slow in reaching it (and when returning to the original one).

4-6 Using an Expression Pedal

When you connect an Expression pedal (EV–5 : sold separately) (to the EXP PEDAL jack on the rear panel) you can apply a complete range of effects to a synth sound using the pedal. There are 7 different effects available, including pitch and volume control. Settings made for this feature can be stored within individual Patches.

<Procedure> Selecting the Effect for the Expression Pedal

1. Select the Patch that you want to make settings for from the Play mode.
2. Press [EDIT/PLAY]. This puts you in the Edit mode.
3. Set the [MODE] dial to "PATCH EDIT2".
4. Set the [PATCH PARAMETER] dial to "EXP ASSIGN".
5. Press [+] or [-] to select the desired effect. For information on what is shown in the display and the kinds of effects available, see the following page.
6. Switch the [MODE] dial to "WRITE", then press [+] and [-] simultaneously. Your selection for the Expression Pedal is written into the Patch.

IMPORTANT! When you want to save the original version of the Patch as well, transfer it to another location before you begin editing (p. 28).

The Effects That Can Be Obtained Using An Expression Pedal (7 types)

Seven different effects (numbered 1—7 in the display) are available.

1: Volume

The Synth volume will change within the range between 0 and the level set using the GK-2A's volume knob.

2: Balance

The volume balance between the Main and Sub Tones will change. With the pedal released, only the Main Tone will be heard. With the pedal fully depressed, only the Sub Tone will be heard.

3: Brightness

Provides for continuous changes in the brightness of the synth sound.

4: Wah-wah

This is a variation of the Brightness effect (above). Similar to a wah-wah pedal, it provides unique, tonal sound.

5: Modulation

Allows you to alter the depth of the pitch fluctuations that will be applied to the synth sound. (The speed of such fluctuations are pre-determined for every Original Tone.)

6: Bender

Lets you greatly alter the pitch of the synth sound while still preserving the harmony of chords. The original pitch is returned to by releasing the pedal (except for some Tones). The pitch that will be obtained when the pedal is fully depressed depends on the range selected for the Pitch Shift pedal function. (See p. 50 — 51.)

7: Control # 16

Transmits the status of the Expression Pedal from MIDI OUT using Control Change message No. 16 (General Purpose Controller 1). This feature can be used when you want to have control over a parameter on an external effects unit. Note, however, that it does not affect the internal sound generator.

IMPORTANT! After using the Expression Pedal to apply an effect to a Patch, if you switch to another Patch, the effect will cease being produced, no matter what position the pedal is in. The new Patch will at first sound normally, in accord with its stored settings. Only the moment that the Expression Pedal is operated again will it begin causing an effect on the new Patch.
However, if both Patches (before and after changing) are assigned function "1" (Volume), the previous Expression Pedal setting will be applied.

Chapter 5

System Expansion . . . Combining the Unit with External MIDI Devices

<Purpose of This Chapter>

The GR-09 is equipped with MIDI connectors (IN/OUT). By using the MIDI capabilities of the GR-09, a guitar can be used to control a variety of external sound generating devices (such as synthesizers and samplers). A guitar can also be used for data input to a MIDI sequencer (a performance data recorder). You can also use MIDI to transfer Patch data from the GR-09 to an external device for storage. This chapter explains these MIDI features.

About MIDI

MIDI is an acronym for "Musical Instrument Digital Interface."
MIDI is an internationally recognized standard used to convey messages (data) between electronic musical instruments and peripheral devices.
MIDI is used by all manufacturers in all types of devices. This means that you can, for example, use a guitar synth from Manufacturer A to play a sound generator from Manufacturer B, and record the data onto a sequencer from Manufacturer C.

MIDI Messages Handled by the GR-09:

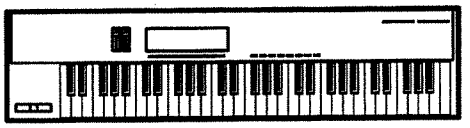
- "Note On" messages convey the pitch and velocity (volume) generated by playing individual notes.
- "Note Off" messages convey the fact that notes have dropped below a certain volume level.
- "Bend" messages convey smooth pitch changes, such as those produced when bending, sliding, or hammering-on.
- "Program Change" messages relay information about Patch changes.
- "Control Change" messages convey changes in the volume or effects settings.
- "System Exclusive" messages are used to transfer the contents of Patches to external devices.

etc.

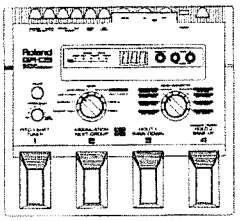
5-1 Using the GR-09 and a Guitar to Trigger an External MIDI Sound Generator

The GR-09 is capable of converting what is played on the guitar to MIDI messages. This means that a guitar can be used to play the sounds in a MIDI keyboard or sound module.

(Making the Connections)



Sound generator-equipped keyboard, or sound module



GR-09

You must set the following items correctly in order to be able to satisfactorily control an external device. (For how to make the settings, see p. 58.)

- **Set the transmission mode (Mono/Poly) so it is suitable for the receiving device and your particular setup.**
- **Match the MIDI transmission channel with that of the receiver.**
- **Match the MIDI bend range to that used by the receiver.**

(Important Term) MIDI Channel

The "MIDI Channels" used on both devices must be the same in order to be able to exchange MIDI performance data. Any MIDI channel from 1-16 can be selected. (For example, if channel 1 is set on the transmitting device, channel 1 must also be set on the receiving device.)
When putting together a system that includes a multi-timbral sound generator (a sound generator that provides a multiple number of Parts) or a sequencer (for data recording/playback), you need to select a channel that will not conflict with some other instrument part. (For info on how to make the settings, see p. 58.)

(Important Term) Mono Mode/Poly Mode

The GR-09 allows you to select from two methods for transmitting MIDI performance data to an external unit; "Mono Mode Transmission" and "Poly Mode Transmission." (For info on how to make the settings, see p. 58.) The difference between these two modes is as follows:

(Mono Mode Transmission)

Number of channels used: One channel is used for each string.

Six channels are selected automatically, starting with the number selected first when selecting channels in the Edit mode.

Example: When "3ch" has been selected.

The six channels from 3ch to 8ch will be used for the first string to the sixth string respectively.
(For this reason, in Mono mode transmission, channels 12-16 cannot be selected as the first channel on the GR-09.)

Advantages:

Allows messages describing continuous pitch fluctuations (MIDI Bend messages) to be sent independently for each string. Characteristic playing styles, such as those involving a vibrato arm (whammy bar), and harmonized bending can be reproduced.

Setups for which the mode is suited:

- **When using a multi-timbral sound generator containing 6 Parts or more.**
- **When using a device capable of Mono mode reception, even though it doesn't contain 6 Parts. (Such as the Roland D-50/550. The receiver also needs to be set to the Mono mode.)**

(Poly Mode Transmission)

Number of Channels Used:

Only one channel is used for all strings. The number selected when selecting the transmission channel in the Edit mode is used.

Advantages:

Since the guitar Part uses only one channel, you can conserve MIDI channels. Also, by using this mode, you can control sound generators that cannot simultaneously receive on 6 channels. However, when two or more strings are sounding, Bend messages cannot be transmitted, so pitch changes are sent in semitone intervals. For this reason, the synth sound may not accurately reflect the actual pitch being generated by the guitar.

Setups for which the mode is suited:

- **When using an external sound module with 5 (or less) Parts.**
- **When you wish to conserve the number of MIDI channels used.**

(Important Term) Bend Range

MIDI Bend messages are used for transmitting the continuous pitch fluctuations that you can obtain with string bending techniques, finger vibrato, whammy bar, slide, etc. In order for the pitch to be transmitted correctly, a setting known as "Bend Range" must be set to identical values on both the GR-09 and the receiving unit. Bend Range should be set to a value that is as large as possible, in order to smoothly express pitch fluctuations over a broad range. However, the possible range on different receiving sound generators will vary. Therefore, you should set the receiver to the maximum possible value, then set the GR-09 so it matches that Bend Range.

<Procedure> Setting the Channel, Transmission Mode and Bend Range

1. Press [EDIT/PLAY] from the Play mode. You are now in the Edit mode.

2. Set the [MODE] dial to "MIDI CHANNEL".

3. Press [+]/[-] to select 6 channels (1-11) for Mono mode transmission, then continue and select channel 1-16 for Poly mode transmission. The selected channel numbers are shown in the display. "MONO" or "POLY" (in the Five-LED group) lights to indicate the selected transmission mode.
   In this situation, you cannot set the GR-09 to the Poly reception mode. (p. 62)

4. Switch the [MODE] dial to "BEND RANGE".

5. Press [+]/[-].
   This setting is for the Transmission and Reception Bend Range. You can select from a choice of 8 possible ranges: 0, 1 semitone, 2 semitones, 4 semitones, 5 semitones, 7 semitones, 12 semitones, and 24 semitones. With "0" selected, MIDI Bend messages will not be transmitted, and instead the unit will use the Chromatic mode (pitch changes only at semitone intervals) for transmission.

6. Once you have everything set the way you want, press [EDIT/PLAY]. You are returned to the Play mode.

Because these are System parameters, a Patch write is unnecessary. (The settings remain in memory even while power is off.)

If connecting with a multi-timbral sound module, and you selected the Mono mode in Step 3., you need to assign the sounds that you want to be used for the 6 Parts on the module. Additionally, you need to match the channels on the receiver with the 6 consecutive channels that were selected on the GR-09. (Refer to the page explaining the Mono mode.)

Then when you play your guitar (equipped with the GK-2A), the external MIDI sound generator will play.

If it does not sound, try raising the volume on the GK-2A to maximum. Also try switching the GK-2A's selection switch to "SYNTH" or "MIX." You should also check to see if MIDI Note Output is set to "ON" in the "LAYER" parameter for the Patches being used, in accord with the procedure on p. 36. If it still does not sound, check other settings, such as the volume of the sound generator, and check all the cable connections.

5-2 Altering the Volume of an External Sound Module/Effects Unit and Switching Patches

By using MIDI to place the GR-09 in control of an external sound module, you can then control the volume of the external device, or switch to different sounds.

Using the GK-2A's Volume and Selection Switch

When you change the volume on the GK-2A, a Control Change message (#7) is transmitted from the GR-09's MIDI OUT. (You of course need to have the receiving device set so it recognizes the Control Change message (#7).) As a result, you can control the volume of the external device using the volume knob on the GK-2A. Also, if the GK-2A selection switch is placed at "GUITAR," a value of "0" is transmitted to the external sound module, and as a result it will no longer produce sound. If switched to "MIX" or "SYNTH", the value of the GK-2A Volume or the value of the Expression pedal setting (effect 1 is set for EXP ASSIGN) is sent, and sound production is resumed.

IMPORTANT! ***About the "Control Change #7 Prohibited" Function***

Some effects units (that have limited MIDI function) cannot be set to ignore receive Control Change #7. If you use such an effects unit with the GR-09 (connected by MIDI for the purpose of applying effects to the guitar sound), the sound of the guitar itself may not be heard when you move the GK-2A's selection switch to "GUITAR."

If you need to have such an effects unit included as part of your system, you will need to hold down the [EDIT/PLAY] button while you turn on the GR-09. You will then see "C" (Control Change #7 Prohibited) displayed in the lowest digit of the display before the unit goes into normal operation. Thereafter (until the unit is turned off), the GR-09 will not send out any Control Change #7 messages.

Note that this function can be used in tandem with "Polyphonic Reception" (p. 62), and "Bend Data Thin" (p. 64). When necessary, you can simultaneously hold down all the relevant switches while you turn on the power.

Using an Expression Pedal

When effect 1 (Volume) is set for EXP ASSIGN (p. 52), Control Change #7 messages are transmitted when you operate the Expression Pedal. Similar to the above function, this also allows you to control the volume of the receiving unit. In this case, if you wanted to set the volume to the maximum, you would need to put both the GK-2A's knob, and the Expression Pedal at their maximum levels.

When effect 5 (Modulation) is selected for EXP ASSIGN, Control Change #1 messages (Modulation) will be transmitted to the external unit when you operate the Expression Pedal.

When effect 6 (Bender) is set for EXP ASSIGN, the pitch of the receiving device will also change when you operate the Expression Pedal. In fact, MIDI Bend messages are used to control the pitch. By fully releasing the pedal, the original pitch returns. The pitch that will be obtained when the pedal is fully depressed depends on the range selected for the "Pitch Shift" pedal function. (For how to make the setting, see p. 50.)

NOTE! ***Depending on the external sound module being used, certain limitations may be placed on the range of change. Also, this effect cannot be transmitted perfectly when in the Poly mode.***

When effects 2, 3, 4, or 7 are selected for EXP ASSIGN, Control Change #16 messages (General Purpose Controller 1) will be transmitted when you operate the Expression Pedal. You can choose what you want to have controlled on the receiving unit by assigning it to Control Change #16. The Expression Pedal will then provide control over that function.
Moreover, when effect 2, 3 or 4 is selected for EXP ASSIGN, and the GR-09 receives Control Change #16 messages, the internal synth module will respond as if the expression pedal had been used.

Using Functions Provided by the Unit's Pedals

Play Mode

When you use the unit's pedals to select Patches, Program Change messages are transmitted to the external MIDI device. You can use this to switch sounds on an external device. (The same thing occurs when you switch Patches using the [+]/[-] buttons.)

(Relationship Between the GR-09's Patches and Transmitted Program Change Numbers)

A11—A14 = 1 — 4	C11—C14 = 65 — 68
A21—A24 = 5 — 8	C21—C24 = 69 — 72
A31—A34 = 9 — 12	C31—C34 = 73 — 76
A41—A44 = 13 — 16	C41—C44 = 77 — 80
A51—A54 = 17 — 20	C51—C54 = 81 — 84
A61—A64 = 21 — 24	C61—C64 = 85 — 88
A71—A74 = 25 — 28	C71—C74 = 89 — 92
A81—A84 = 29 — 32	C81—C84 = 93 — 96
b11—b14 = 33 — 36	d11—d24 = 97 —100
b21—b24 = 37 — 40	d21—d24 = 101 —104
b31—b34 = 41 — 44	d31—d34 = 105 —108
b41—b44 = 45 — 48	d41—d44 = 109 —112
b51—b54 = 49 — 52	d51—d54 = 113 —116
b61—b64 = 53 — 56	d61—d64 = 117 —120
b71—b74 = 57 — 60	d71—d74 = 121 —124
b81—b84 = 61 — 64	d81—d84 = 125 —128

By using this feature, you can have a Patch from the internal sound generator and the sound which has the corresponding Program Change number in the external MIDI sound module played together. If you want to make a Patch which will cause only the external sound module to play, you can alter the Layer settings for the Patch, and set all strings to "Mute."
On the other hand, if you want only the internal sound generator to sound, you can use the following procedure to set the GR-09 so it does not transmit performance data.

<Procedure> Setting Whether or Not MIDI Performance Data Will Be Output for Each Patch

1. Select the Patch you want to edit from the Play mode.
2. Press [EDIT/PLAY]. This puts you in the Edit mode.
3. Move the [MODE] dial to "PATCH EDIT1", then set the [PATCH PARAMETER] dial to "*LAYER."
4. Set the [*STRING SELECT] knob to "MIDI".
5. Press [+] or [-].
   Switch the setting ON/OFF while viewing the display. Set Patches for which you do not want MIDI performance data to be output to OFF.
6. Once you have it set the way you want, switch the [MODE] dial to "WRITE", then press [+] and [-] simultaneously. Your changes have now been written into the Patch.

IMPORTANT! Even when this setting is to OFF, some kinds of messages (eg. Program Changes) will still be transmitted.

About transmitting MIDI messages when in the Pedal Function Mode

When you use the Pitch Shift, Modulation, Hold 1, or Hold 2 pedal functions, you can obtain a similar effect on the external device as a result of the MIDI messages that are transmitted.

With the Pitch Shift function, an effect that is identical to that produced internally is applied through the transmission of Bend messages.
However, in some cases the external sound module may impose restrictions on the range of change. Note also that when transmitting in the Poly mode, the above pitch fluctuations cannot be obtained.

With the Modulation function, when you step on the pedal the value of "127" for Control Change #1 is transmitted. When you release the pedal, the value is instantaneously returned to "0."
On the external unit, the effect you obtain will be the same as the function that has been assigned to Control Change #1.

With Hold 1 and Hold 2, while the pedal is depressed the unit will not transmit Note Off messages. This results in an effect that is identical to what the internal sound generator provides (p. 23).
Note that in order to provide independent control over every string, Control Changes are not used. Note also that when transmitting in the Poly mode, these effects may not be accurately conveyed.
(This is because this unit cannot recognize the fret position in the Poly mode transmission. Therefore, different fret positions may produce the same pitch.)

5-3 Using the GR-09 as an Expansion Sound Module for a MIDI Keyboard

Ordinarily, the sound generator in the GR-09 uses Mono mode reception and 6 MIDI channels. If you intend to use the GR-09 as an extra sound generator in a system with other external devices (keyboard and/or sequencer), you should note that it can only produce individual notes if left in its normal mode of operation. Should you require that several notes be produced at once, you will need to set the GR-09 to use the "Polyphonic Reception" function (by performing the steps below). Once set to this mode, you will be able to use the unit as a polyphonic sound module, which uses only one MIDI channel.

<Procedure> Activating the "Polyphonic Reception" Function to Use the Unit as a MIDI Sound Generator

1. First, turn off the power.
2. Turn the power back on while holding down the [-] button. After "P" (Polyphonic Reception) has been displayed in the second column of the display, the unit continues with its normal startup.
3. Press [EDIT/PLAY]. You are now in the Edit mode.
4. Set the [MODE] dial to "MIDI CHANNEL".
5. Press [+] or [-] to select the MIDI channel that the external device will use for transmission. On the GR-09, the transmission and reception channels are always the same.
   It does not matter whether you set the transmission mode to either MONO or POLY.
6. Press [EDIT/PLAY]. You are returned to the Play mode.

The unit is now capable of playing polyphonically when it receives MIDI messages from an external device.

IMPORTANT 1 ***Note the following about the way the unit operates while Polyphonic Reception is active:***

- ***Regardless of what has been selected for MUTE using the [*STRING SELECT] knob, the unit will constantly be set to Local OFF (p. 64).***
- ***The unit will play using the sound of the currently selected Patch. Up to 28 voices can be used. (Maximum polyphony will vary depending on the types of Tones used and differences in Layer settings.)***
- ***Note Shift and Layer settings will all rely on the settings for the first string only.***
- ***When an excessive number of Note On messages arrive, notes that have been sounding the longest will be cut first (last-note priority).***
- ***This function can be used in combination with "Control Change #7 Prohibited" (p. 59), and "Bend Data Thin" (p. 64). Simply hold down all the relevant buttons while you turn the power on.***
- ***When you turn the power off and then on again, Mono mode reception will be in effect.***

IMPORTANT 2 ***When you use this unit as a sound module for another MIDI device, you cannot use features of the Pedal Function mode (except for Modulation).***

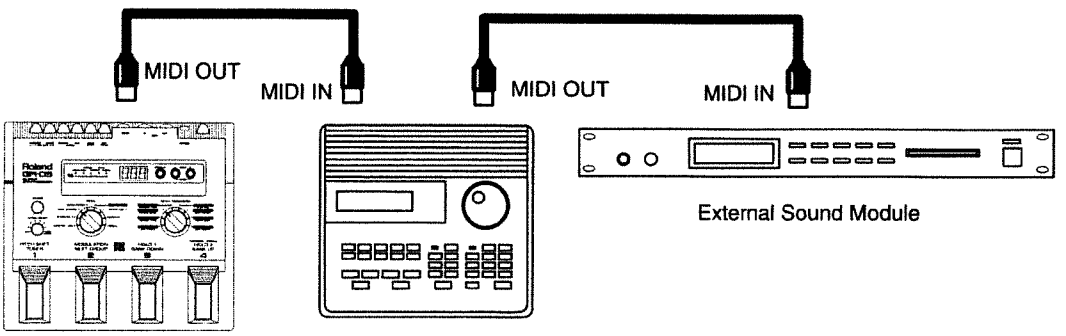
IMPORTANT 3 ***When you use this unit as a sound module in Mono mode reception (using six channels), you must set the transmit channel on the external device to match the first of the six channels used on the GR-09.***

5-4 Using a Guitar for Input to a Sequencer

By connecting the GR-09 to a MIDI sequencer (a data recording/playback device), guitarists with no experience on keyboards can record in real-time into the sequencer. Also, by using the GR-09 to input string instrument parts, you can easily achieve voicings that would be hard to achieve using a keyboard, and can more correctly express the timing used with chords. Additionally, by using Mono mode transmission, you can record pitch fluctuations which are typical of the guitar into the sequencer.

<Procedure> Recording Performance Data from a Guitar into a MIDI Sequencer

1. Connect the devices as shown below.



2. Set the GR-09's transmission channel, transmission mode, and bend range (according to the steps on p. 58) so they match the sound module being used.

3. Turn "Soft Thru" (or equivalent function) on the sequencer to ON. (For recording, set things so that all MIDI data output from the GR-09 will also be routed through the sequencer and be output from its MIDI OUT.)

4. Set the [*STRING SELECT] knob to "MIDI (MUTE)", thus setting it to Local OFF.

5. Once set, play the guitar and check that the external sound module responds properly. If there are no problems, have the external sequencer start recording. After you have finished recording, have the sequencer play it back so you can listen to the result.

6. If you also want to use the GR-09's sound generator in your songs, you need to add another cable (not shown in illustration 1), which should run between the MIDI THRU on the external sound module and the MIDI IN on the GR-09. Now you will be able to use sounds produced by the GR-09 in your recording, while also being able to hear the Parts produced by the external sound module. (In this case, you will need to make sure that the MIDI transmission channel does not conflict with the channel set for the external sound module.)

IMPORTANT 1 ***When the sequencer you are using is not capable of recording on a multiple number of channels, you will need to carry out transmission/recording using the Poly mode.***
You might also wish to use the Poly mode if you are trying to reduce the number of channels or Parts that are being used. (If you want to have the GR-09 use only one channel for reception, refer to p. 62.)

IMPORTANT 2 ***When playing the sequencer, confirm the setting of Bend Range and MIDI Channels.***

(Important Term) Local ON/OFF

Whenever the GR-09's internal sound generator and guitar control section are connected together, it is set to what is known as "Local ON." The opposite of this is when it is set to Local OFF, in which case the GR-09's sound generator is disconnected from the guitar control section, and only MIDI messages from an external source (such as a sequencer) will cause the unit to produce sound. At the same time, performance data from the guitar will be output only from MIDI OUT.
By setting the unit to Local OFF, you can avoid the problem of having two streams of the same data conflict with each other. This can occur when using Soft Thru, since the performance data from the guitar can run into the same data after it has been routed through the sequencer.
The GR-09 can be set to Local Off any time simply by moving the [*STRING SELECT] knob to "MIDI(MUTE)". Additionally, whenever the Polyphonic Reception function is made active when power is turned on, the unit is always set to Local OFF (p. 62).

* ***Since the unit should ordinarily be set to Local ON, the [*STRING SELECT] knob should be left at any position other than "MIDI (MUTE)".***

By the way. . .
About the Bend Data Thin Function

In order to accurately express all the nuances of pitch fluctuation, the MIDI performance data output by the GR-09 generally includes an enormous amount of data. But if you are inputting this data into a sequencer, you can sometimes easily exceed the memory capacity of the sequencer. The Bend Data Thin function conveniently allows you to avoid this problem by suppressing the amount of Bend data that is transmitted. As a result, pitch changes won't be as smooth as they normally would be, but you gain the advantage of having some control over the amount of MIDI data that is produced.

To activate the Bend Data Thin function, turn the GR-09 ON while holding down the [+] button. After "b" (for bend data thin) has been displayed in the third column of the display, the unit continues with its normal startup.
Thereafter (until the unit is turned on again) all transmissions of Bend data will be thinned down.

* ***This function can be used in combination with "Control Change #7 Prohibited" (p. 59), and "Polyphonic Reception" (p. 62). Simply hold down all the relevant buttons while you turn on the power.***

5-5 Using an External MIDI Device to Save the GR-09's Patch Data

By using MIDI, you can transfer the GR-09's System and Patch data to an external device. For example, if you transfer the unit's Patch data to an external unit with storage capabilities, you can make backup copies of your Patches. MIDI Exclusive messages are used to perform such transfers. (Note that only devices which can handle Exclusive messages can be used for this purpose.)

By the way. . .

If you use a MIDI sequencer's real-time recording function or Bulk Librarian function, you can save the data that has been sent from the GR-09 onto floppy disks.
Two GR-09s can also be connected together, and their data can be directly exchanged. This allows one GR-09 to be set exactly like another one.

<Procedure> Transmitting System and Patch Data to an External MIDI Device

1. First, turn off the GR-09.
2. Connect a cable from MIDI OUT on the GR-09 to MIDI IN on the external device.
3. Keep Pedal 3 depressed while you turn the power back on.
   "ALL" is displayed.
4. Use the [+]/[-] buttons to select the Patch that you want to transmit, from A11 to D84. (When sending the data for only one Patch.)
   The number of the selected Patch is shown in the display.
   If you skip this selection ("ALL" is selected) and proceed directly with Step 5, the data for all the Patches and the settings for all the System parameters will be transferred to the external device.
5. Get the external device ready to receive data.
6. Press [EDIT/PLAY].
   The data selected in Step 4 will be transferred to the external device. "Snd." (Sending) flashes during the transfer.
7. When you are returned to what was displayed previously, the transfer is complete. To return to the GR-09's normal operating mode, turn the unit off and then on again.

* ***Receiving System and Patch Data***

Whenever the power is turned on, the GR-09 is ready for reception of Exclusive messages. So any data that was previously sent to an external device can be sent back to the GR-09's MIDI IN at any time.

IMPORTANT! When the GR-09 receives Exclusive messages for System and Patch data, the System and Patch data that exists in the unit at the time will be overwritten (erased).
You should be particularly careful with data that was saved when "ALL" was specified, because when this data is sent back to the GR-09, all settings in the unit at that time will be erased. You may want to first transfer all the data you have in your unit to an external device so you have a backup of it before receiving another set of data.

Chapter 6

Reference

TROUBLESHOOTING
Original Tone Expansion
Tone List
Tones Used In The Preset Patches
Parameter List (Blank Chart)
Roland Exclusive Messages
MIDI Implementation
MIDI Implementation Chart
Specifications
QUICK REFERENCE TO PROCEDURES
INDEX

TROUBLESHOOTING

< Normal Playing Situations >

Synth sound not produced when guitar is played

Could the VOLUME on the GR-09 or the SYNTH VOL knob on the GK-2A be turned down too low?
→ **Turn it up to a suitable level.**

Could you possibly have the STRING SELECT knob set to MIDI (MUTE)?
→ **Set it to any position other than MIDI (MUTE).**

Could you have "Layer" set so neither a Main Tone nor a Sub Tone is selected?
→ **Check that you have a Main (Sub) Tone assigned to each string. (p. 33)**

Could you have the volume on the GK-2A turned down too low?
→ **Set the switch to SYNTH or MIX and turn the volume up to a suitable level.**

If you have an EV-5 pedal set up to control volume, could it be set to minimum?
→ **Step on the pedal.**

Could your setting for "Patch Level," a Patch parameter, be set too low?
→ **Increase the setting to an appropriate level. (p. 39)**

Are you using the "Poly Mode Reception" (p. 62) function?
If you are, the GR-09 has been switched to 'Local Off,' and will not produce sound the way it normally does. (It is dedicated to MIDI transmission/reception.)

Do you have an expansion kit installed?
Remember that without expansion, no sound will be produced if you select Original Tones above number 181.

Pitch Doesn't Change When Master Tune is Altered

Note that only the pitch of the synth sounds that are produced under the control of an external MIDI device will immediately change to reflect an altered setting for Master Tune on the GR-09. All synth sounds controlled by the guitar (except when the unit is set to Chromatic) will track the actual pitch of the guitar, ignoring the setting for Master Tune.

→ **When you want to adjust the pitch of everything, including the guitar, first make the setting for Master Tune (p. 29), then use the internal tuner to retune the guitar (p. 15).**

One of the Tones Doesn't Sound Even When the Layer Setting Is Correct

Have you checked to make sure the Tone Balance (p. 38) isn't set in favor of one of the Tones (Main or Sub)?
→ **Adjust the setting so you have the appropriate balance.**

Do you have "Tone Balance" assigned to an EV-5, and have the pedal either fully depressed or completely released?
→ **If so, try operating the EV-5 pedal. Or, you may want to assign a different function to it. (p. 52)**

Volume Not the Same for Each String

Do you have the sensitivity adjusted appropriately for each string?
→ **If necessary, adjust these settings. (p. 16)**

Pitch Doesn't Rise When Using Pitch Shift or the EV-5's Bend Function

With functions that provide continuous pitch changes, you may run into restrictions on the range of change when the pitch is being raised for certain Tones.
→ **If you encounter restrictions, try narrowing the range of change. (p. 51)**

Different Type of Timbre Change Obtained (Using an EV-5)

The unit normally adds a different kind of nuance as part of the effect when brightness or wah-wah is assigned to different Original Tones.
→ **You should try out all the available features beforehand so you know what to expect. (p. 75)**

Different Type of Modulation Obtained (Using Pedal Functions or EV-5)

The speed of the undulations in pitch produced when using the modulation feature varies depending on the selected Tone.
→ **You should try out all the Tones beforehand and hear how the modulation affects them.**

With the modulation effect produced using the pedal functions, the depth will be a different, predetermined value for each Tone.
→ **Listen to the differences in the depth for the effect beforehand, then select the appropriate Tones.**

When Using the EV-5 to Change the Balance, Only One of the Tones Sounds

Have you checked that you don't have Layer set so only one Tone, either the Main or Sub, is set to sound?
→ **Set it so both the Main and Sub Tones are set to sound. (p. 36)**

Could the Tone Balance (p. 38) for the Tone be set to 50 (or -50)?
→ **Try it again after setting it to around 0.**

Effect Doesn't Quit Even When Pedal is Fully Released

Could the Minimum Volume on the EV-5 be set to a large value?
→ **Reduce the Minimum Volume.**

Effects Don't Work

Have you checked to make sure "Reverb Type" (p. 43) or "Chorus Type" (p. 45) is not set to OFF?
→ **Select a type other than OFF.**

Is the Reverb Level suitable? (p. 42)
→ **Set the Reverb Level to an appropriate value.**

Be aware that the internal effects of the GR-09 are designed to work only on the synth sounds. They cannot be applied to the guitar sound itself.
→ **You can apply effects to only the guitar sound using an external effects unit, by utilizing the GUITAR OUT jack. (If using a single amplifier for both the synth and guitar sounds, the GUITAR RETURN jack is used as well.)**

Pitch of Synth Sound Does Not Change With That of the Guitar

It is normal for certain Tones (such as special effect sounds) to exhibit a different kind of pitch change compared with the guitar.

Cyclic Noise Heard in the Very High Pitch Range

This is caused by a phenomenon common to digital synthesizers known as "aliasing." When you play using a sliding technique, or make use of the Pitch Shift function, you may hear this type of noise. This is normal. The GR-09 was designed to minimize aliasing as much as possible, making it suitable for use with a guitar.

Pitch Doesn't Change Smoothly

Could you have the Patch set to "Chromatic"?

→ **If the "CHROM" indicator is lit after you press the [EDIT/PLAY] button (and enter the Edit mode), turn it off by depressing the pedal at the far right. (You may want to then write this status into the Patch, p. 40.)**

Are you making use of the Bend Data Thin (p. 64) feature?

When playing normally, some of the natural pitch fluctuations will not be fully expressed when this function is being used.

→ **Don't use the Bend Data Thin feature unless it is really necessary.**

Patch Won't Change When (+)/(-) Buttons are Pressed in the Pedal Function Mode

Did you make any kind of editing changes in the Patch before you entered the Pedal Function mode?
In order to prevent the loss of data which has not yet been saved (written) as part of a Patch, the unit does not allow you to move away from the Patch currently being edited while in the Pedal Function mode.

→ **You can switch to whatever Patch you wish if you return to the Play mode.**

"bAt" is Displayed While Power Is On

This is a warning message which tells you that the unit's internal battery (needed for preserving the Patch and System data) is nearly depleted. Once you notice this message, you should have the battery replaced promptly, if you don't want to risk losing your data.

→ **Please contact your Roland retailer or the nearest Roland Service Station.**

< While Editing Patches >

Display/Indicator Suddenly Started Flashing

When the [EDIT/PATCH] indicator begins flashing, it warns you that changes have been made in the currently selected Patch, but they have not been saved. (The same occurs when in the Play mode.)
If the displayed number begins flashing when making settings for the Edit Target or Note Shift, and the STRING SELECT knob is set to ALL, it means that the settings for these parameters are not the same for all of the strings.

Sound Doesn't Change After Being Edited

Changes made for the attack, release, and brightness will sometimes affect only the Main Tone, depending on the setting for the Edit Target. Similarly, settings for Note Shift can sometimes be made to affect only the Sub Tone.

→ **Check your setting for the Edit Target and make sure it matches your intentions. (p. 48) If necessary, you could switch the Tone numbers that are assigned to the Main and Sub Tones. (p. 33)**

On the GR-09, changes made in the attack, release, and brightness involve making adjustments in the original data that is used by the Tone. For this reason, the range in which change is possible will vary depending on the Tone. Some Tones will not seem to change as much as others.

Reverb Not Obtained Even With Reverb Level Set High

Have you checked to make sure you don't have the Reverb Type set to "OFF"?

→ **Select a type other than "OFF." (p. 42)**

< When Using a MIDI Keyboard (or other unit) to Play the GR-09's Sound Generator >

Sound Not Produced

Do the MIDI channels on the receiver and transmitter match?

→ **Set the MIDI channel appropriately. (p. 58)**

Chords Don't Sound/Keyboard Damper Doesn't Produce Effect

Are you using "Poly Mode Reception"? (p. 62)

Ordinarily, MIDI reception on the GR-09 is set to use the Mono mode. (Even when you select "Poly Mode Transmission" when making the MIDI CHANNEL settings, reception will still remain in the Mono mode.) Also, the unit will respond to MIDI Control Change #64 (Damper Pedal) only when it is operating in the Poly mode. (p. 62)

→ **Set the unit to use this feature by holding down the [-] button while you turn power on.**

Pedal Functions on the GR-09 Don't Work

When using MIDI messages from an external device (keyboard or other unit) to sound the GR-09, its pedals will not provide their normal functions. Only control over modulation is available.

→ **Use the external device's controllers if you want to apply bend or hold.**

When in the Pedal Function Mode, Patch Doesn't Change When Program Change is Received

Did you make any kind of editing changes in the Patch before you entered the Pedal Function mode?
While in the Pedal Function mode, to prevent the loss of data which has not yet been written into the Patch, the unit does not allow you to switch to a Patch other than the one currently being edited.
→ **The unit will respond to Program Changes if you return to the Play mode.**

Although Single Notes Are Sounded When Data Is Sent By an External Unit, Program Changes Are Not Received

Could you be sending MIDI data for the five MIDI channels other than the first channel specified for "MIDI CHANNEL," when the GR-09 is set for Mono mode reception?
You must send all MIDI messages (except Note and Bend messages) to the first channel.
→ **Even when the GR-09 is set to receive on six channels, you must always have the external unit transmit data on the first channel.**

< When Transmitting Performance Data from the GR-09 to an External Device (Sound Module, Sequencer) >

External Unit Does Not Sound

Do the MIDI channels on the receiver and transmitter match?
→ **Set the MIDI channels so they match. (p. 58)**

Could the volume on the GK-2A or the EV-5 be set too low?
The level on the external unit could have been lowered as a result of Volume messages (Control Change #7) being sent out by the GK-2A.
→ **Try raising the volume on the GK-2A.**

Only One String Is Sounded by the External Device (Strings Don't Sound)

Are you transmitting in Mono mode from the GR-09 to an external unit that is not capable of receiving on six channels simultaneously?
→ **With such units, you need to use the Poly mode for transmission. (p. 57 — 58)**

Low Range Notes (Not Available on the Guitar) Cannot Be Sounded

→ **When editing Note Shift, you can move the STRING SELECT knob to MIDI, then apply any amount of transposition you want to what is to be output from MIDI OUT. (p. 37) This setting can be stored along with every Patch.**

Pitch Is Strange

Do you have the MIDI Bend Range set to the same value on both the transmitting and receiving units?

→ **If not, set the units so the Bend Ranges match. (p. 58)**

Pitch Doesn't Change Smoothly

Are you transmitting while in the Poly mode?

When transmitting using the Poly mode, pitch transitions that take place while chords are played will occur in semitone steps. (p. 57 — 58)

→ **Either play using single notes, or carry out transmission while in the Mono mode.**

Are you making use of the Bend Data Thin (p. 64) feature?

→ **Don't use the Bend Data Thin feature unless it is necessary.**

Do you have the MIDI Bend Range set to "1" or "2"?

→ **Try to select as large a value as possible for the Bend Range in order to have the transmitting and receiving units be more compatible. (p. 58)**

With a value of "0" for the Bend Range, all pitch changes will be in semitone steps.

→ **Set the units to the appropriate Bend Range. (p. 58)**

When Viewing the Data That Has Been Input Into a Sequencer, It Seems To Be at a Different Pitch Than What Was Played

In order to quickly convey the attack of notes, and also reliably express the nuances of pitch fluctuations, the GR-09 utilizes a combination of Note and Bend messages to convey the pitch of a note. For this reason, if you look at this data after it has been recorded on a sequencer (using the "microscope" or similar feature), it may appear to be different than what was played.

→ **If you do not need to have continuous pitch fluctuations, you can create data which can be much more easily understood when viewed by setting the Transmit Bend Range to "0."**

It Feels Different Playing an External Sound Module Compared With Internal Sound Generation

The response time (and other factors) can seem somewhat altered, and you may feel there is a slight disadvantage to using MIDI to play an external unit, as opposed to the GR-09's internal sound generator. This is caused by restrictions in MIDI specifications, not the GR-09 or your external unit.

Original Tone Expansion

If you install a special expansion kit (GR9E-1; optionally available), you can double the number of Original Tones that the GR-09 provides internally. You will then have access to 360 Tones, instead of 180. Moreover, the 180 new Tones that are provided by this expansion option can offer even richer sounds, since they are composed of sound wave data that is nearly twice as large as the data used to provide the unit's onboard Tones. As a result, you can enjoy using a much larger variety of synthesized guitar sounds that are of an even higher quality.

* ***The GR9E-1 expansion kit is user installable. For installation instructions, see the manual provided with the GR9E-1.***
* ***For details of the Tones which are newly obtained as a result of expansion, see the list on page 76.***
* ***Please contact the retailer where you purchased the GR-09 to obtain the GR9E-1.***

Installing Notes

- ***Never install any circuit board which has not been manufactured and/or approved by Roland.***
- ***Always turn the unit off and unplug the power cord before attempting any circuit board installation.***
- ***Do not touch any of the printed circuit pathways or connection terminals.***
- ***Remove only the specified screws. Carefully handle the components as instructed.***
- ***When circuit board installation is complete, check your work.***

Tone List

Internal Tones

No.	Tone Name	Remarks	No.	Tone Name	Remarks	No.	Tone Name	Remarks	No.	Tone Name	Remarks
1	Acoustic Piano1		46	Pick Bass4	D	91	Nylon Scat	D	136	Blow Pipe	
2	Acoustic Piano2		47	Slap Bass1		92	Pluck-Doo	D	137	Harmonica	
3	Honky Tonk	D	48	Slap Bass2	D	93	Brass Section1		138	Whistle	D
4	Electric Piano1		49	Detuned Slap	D	94	Brass Section2	D	139	GR300 Lead	
5	Electric Piano2	D	50	Fretless Bass1		95	Brass Section3	D	140	Plain Lead	
6	Electric Grand		51	Fretless Bass2	D	96	Oct Brass	D	141	Poly Synth1	D
7	POP E.Piano	D	52	Mini Bass1		97	Synth Brass1		142	Tweety	D
8	Rhodes		53	Mini Bass2	D	98	Synth Brass2	D	143	Soft Pad	
9	Over Tone	D	54	Oct Bass1	D	99	Synth Brass3	D	144	Metal Pad1	D
10	A.Piano + VIB	D	55	Oct Bass2	D	100	Brass Blust	D	145	Square Lead1	D
11	A.Piano + VOX	D	56	Reso Bass1		101	Rich Brass	D	146	Synth Lead1	D
12	Clav1	D	57	Pedal Bass	D	102	Trumpet		147	Synth Lead2	H
13	Clav2	D	58	Fast Strings		103	Trombone		148	Synth Lead3	D
14	Vibes1		59	Slow Strings		104	Tuba		149	Synth Lead4	
15	Vibes2	D	60	Oct Strings	D	105	Bright Trumpet		150	Synth Lead5	
16	Marimba		61	Bowed Strings		106	Mute Trumpet		151	5th Lead1	DH
17	Organ1		62	Bright Strings1		107	Alto Sax + Tp	D	152	Saw Lead	D
18	Organ2		63	Dark Strings		108	Tp + Tb	D	153	Fat Lead	D
19	Rock Organ1	D	64	JP Strings1		109	Trombone + Sax	D	154	Saw Pad	
20	Jazz Organ1		65	JP Pad1		110	French Horn	D	155	Pulse Pad	D
21	Jazz Organ2	D	66	Oct JP Strings	D	111	Flugel Horn		156	Techno	D
22	Cheeso	D	67	JP Strings2	D	112	Detuned Horn	D	157	Ominous	D
23	Pipe Organ1	D	68	Hybrid Strings1	D	113	Velocity Horn	D	158	Harp Pad	D
24	Steel Guitar1		69	Hybrid Strings2	D	114	Dual Horn	D	159	Invisible	D
25	Nyln Guitar		70	Hybrid Strings3	D	115	Pulse Horn	D	160	Atmosphere	D
26	12Str Guitar1	D	71	Violin		116	Synth Horn		161	Digital Pluck	D
27	GTR Harmonics1		72	Cello1		117	Breathy Horn	DH	162	Pluck Sweep1	D
28	GTR Harmonics2	D	73	Contra Bass	D	118	Flugel + Trumpet	D	163	Pluck Sweep2	D
29	Distortion GTR1		74	Fiddle		119	Flugel + Flute	D	164	Sweep Pad1	D
30	Distortion GTR2	D	75	Wire String		120	Alto Sax		165	Octave Pad1	D
31	Guitar Clav	D	76	Harp		121	Tenor Sax		166	Hellow Pad	D
32	Guitar Lead	D	77	Synth Harp	D	122	Soprano Sax		167	Choir Pad	D
33	Feed Back1	D	78	Synth Vox1		123	Alto Growl	D	168	Digital Bow	D
34	Feed Back2	D	79	Synth Vox2		124	Tenor Growl	D	169	Digital Vox1	
35	Only Feedback	D	80	Double Vox	D	125	Alto + Tenor	D	170	Soundtrack	D
36	Pedal Steel		81	Vox Lead1		126	Piccolo		171	Bowed Glass	D
37	Banjo		82	Haunt Vox	D	127	Flute		172	Heaven	D
38	Electric Sitar1		83	Chiff Pad	DH	128	Oboe		173	Fanta Bell	
39	Electric Sitar2	D	84	Breath		129	Clarinet		174	Tinkle Bell	
40	Acoustic Bass1		85	Wind Vox	D	130	Chiff Flute	DH	175	Synth Bell	D
41	Acoustic Bass2	DPH	86	Inversion	DH	131	Mute TP + Flute	D	176	Sparkle Bell	D
42	Electric Bass1		87	Synth Harm	D	132	Vibe + Flute	D	177	Fantasia1	D
43	Pick Bass1		88	Echo Vox	D	133	Ocarina	D	178	Fanta Pad	D
44	Pick Bass2	D	89	Scat Vox		134	Calliope	D	179	Whisper	D
45	Pick Bass3	D	90	Double Scat	D	135	Bottle Blow		180	Steel Drum	

* *Tones indicated with a "D" are Tones which consume two voices for each note produced. (The others use one voice.)*

* *Tones indicated with an "H" will exhibit changes which are somewhat different in nuance compared to other Tones. This occurs when you have edited their brightness, or when the brightness or wah-wah effect has been assigned to the EV-5. (This is because the digital filters within the internal sound generator are set to behave in a somewhat different manner.)*

* *Tones indicated with a "P" are Tones which can often exhibit changes which are somewhat different than ordinary Tones when the bend function is used with the EV-5, or when the unit's pedals are used for pitch shifting.*

Expanded Tones (GR9E-1 : Expansion Kit)

No.	Tone Name	Remarks	No.	Tone Name	Remarks	No.	Tone Name	Remarks	No.	Tone Name	Remarks
181	60's E.Piano1	D	226	Bass Solo	D	271	Reso Lead2	D	316	Temple	
182	60's E.Piano2		227	Thud Bass		272	Square Lead2	D	317	Digital Chime	D
183	Spacy Piano	D	228	Sing Flute		273	Digital Lead		318	Alpha Bell	D
184	Electric Piano3		229	Bassoon		274	Backwards	D	319	Bell Aah	D
185	Electric Piano4	D	230	Soft Trumpet		275	Fuzz Lead	D	320	Bell Strings	D
186	Clav Stack	D	231	Solo Horn		276	5th Lead2	D	321	Crystal	
187	Pain Clav	H	232	Hornz	D	277	Soft Lead	D	322	Glass Wave	D
188	Detuned Clav	D	233	Breathy Sax		278	Newage Lead	D	323	Sara Baby	D
189	Clav 3		234	Baritone Sax		279	Rock Lead	D	324	Bell Pluck	
190	Pipe Organ2		235	Baritone + Tenor	D	280	Sweep Lead	DH	325	GTR Pluck	
191	Juno Organ	D	236	Trumpet + Sax2	D	281	GTR Orchestra	D	326	Brass Pluck	
192	Full Organ	D	237	Bag Pipe		282	Crunch	D	327	Orchestra Hit1	
193	Dual Pipe	D	238	Shakuhachi		283	Klack Lead		328	Orchestra Hit2	D
194	Road Organ	D	239	Indopipe	DP	284	Digital Low	D	329	China Cymbal	
195	60's Organ1		240	Cello2		285	Rip Lead		330	Ride Bell	
196	Rock Organ2	D	241	Dynamic Cello	D	286	Brass Lead	D	331	Tambourine	
197	Accordion	D	242	Pizzicato		287	Pulse Wave1		332	Bongo	
198	Steel Guitar2		243	JP Strings3		288	Pulse Wave2		333	Timbales	
199	12Str Guitar2		244	Bright Strings2		289	Saw Wave1		334	Cabasa	
200	18Str Guitar	D	245	Choir		290	Saw Wave2		335	Hard Snare	
201	Detuned Guitar	D	246	Airy Vox	D	291	Square Wave		336	Mondo Kick	
202	Funk Guitar	D	247	Male Vox		292	Triangle Wave		337	Agogo	
203	Guitar Pad	D	248	Double Male	D	293	Spectrum	P	338	Wood Block	P
204	12Str GTR Pad	D	249	Spectrum Vox	DP	294	Utopia	DH	339	Conga Set	
205	Stratus	D	250	Doo Lead	D	295	Big Sweep	D	340	Conga	
206	Bright Guitar	D	251	Percussive Vox	D	296	Square Sweep	D	341	Mute Conga	
207	Synth Harpsicord	D	252	Vox Tree	DP	297	Beehive	DH	342	Synth Drum	
208	Koto		253	Vox + Strings	D	298	Poly Synth2	D	343	Triangle	
209	Shamisen		254	Pipe + Vox	D	299	JP Pad2	D	344	Timpani	
210	Suntur		255	Bell Vox1	D	300	Vecter Pad1		345	Drum Kit	D
211	Pick Bass5		256	Digital Vox2	DH	301	Vecter Pad2	D	346	Concert Bass Drum	P
212	8Str Bass	D	257	Vocoder	D	302	Octave Pad2	D	347	Taiko Drum	P
213	Fretnot Bass		258	Trombone Section		303	Hybrid Pad	D	348	Applause	DP
214	Detuned Fretless	D	259	Brass Section4	D	304	Sweep Pad2		349	Bird	DP
215	Rock Bass	D	260	sfz Brass	D	305	Full Out Pad	D	350	Smash	DP
216	Attack Bass	D	261	Big Brass	D	306	Metal Pad2	D	351	Explosion	DP
217	Muted Rock Bass		262	Synth Brass4	D	307	Pad Tree	DP	352	Gun Shot	P
218	Saw Bass	D	263	Breathy Brass	DP	308	Fantasy2	D	353	Laser Gun	P
219	Wow Bass	D	264	JP Brass	D	309	E.Piano + Pad	D	354	Scratch	P
220	Wet Bass	D	265	Soft Brass		310	Sparkle Pad	D	355	Thunder	P
221	Techno Bass	D	266	Spit Brass	D	311	Converge	DH	356	Wind	P
222	Nasty Bass		267	Fluff Brass		312	Eternity	DH	357	Air	DP
223	Reso Bass2	D	268	GR700 Lead		313	Glocken		358	Wind Chime	P
224	Rasp Bass	D	269	Sync Lead		314	Sanza		359	Double Chime	DP
225	Sync Bass	D	270	Reso Lead1		315	African	D	360	Pink Bomb	D

* ***Tones indicated with a "D" are Tones which consume two voices for each note produced. (The others use one voice.)***

* ***Tones indicated with an "H" will exhibit changes which are somewhat different in nuance compared to other Tones. This occurs when you have edited their brightness, or when the brightness or wah-wah effect has been assigned to the EV-5. (This is because the digital filters within the internal sound generator are set to behave in a somewhat different manner.)***

* ***Tones indicated with a "P" are Tones which can often exhibit changes which are somewhat different than ordinary Tones when the bend function is used with the EV-5, or when the unit's pedals are used for pitch shifting.***

Tones Used In The Preset Patches

** All Patches which don't contains a Sub Tone are nevertheless assigned a Reserved tone. This Reserved tone has been carefully selected to work with the Main Tone should you choose to use the Layer function (p. 36).*

No.	Used Tone (Main Tone, Main & Sub)	Reserved Tone
A11	[17] Organ2	[18](Organ1)
A12	[89] Scat Vox	[25] (Nyln Guitar)
A13	[100] Brass Blust	[110](French Horn)
A14	[25] Nyln Guitar & [70] Hybrid Strings3	————
A21	[44] Pick Bass	[56](Reso Bass1)
A22	[178] Fanta Pad & [79] Synth Vox2	————
A23	[127] Flute	[112](Detuned Horn)
A24	[1] Acoustic Piano1 & [59] Slow Strings	————
A31	[1] Acoustic Piano1	[59](Slow Strings)
A32	[7] POP E.Piano	[65] (JP Pad1)
A33	[20] Jazz Organ1 & [20] Jazz Organ1	————
A34	[12] Clav1	[75] (Wire String)
A41	[123] Alto Growl	[103](Trombone)
A42	[111] Flugel Horn	[127] (Flute)
A43	[103] Trombone	[120] (Alto Sax)
A44	[106] Mute Trumpet	[10] (A.Piano + VIB)
A51	[136] Blow Pipe	[99] (Synth Brass3)
A52	[137] Harmonica & [122] Soprano Sax	————
A53	[139] GR300 Lead	[115] (Pulse Horn)
A54	[145] Square Lead1	[152] (Saw Lead)
A61	[58] Fast Strings	[79] (Synth Vox2)
A62	[59] Slow Strings	[65] (JP Pad1)
A63	[68] Hybrid Strings1	[79] (Synth Vox2)
A64	[64] JP Strings1	[65] (JP Pad1)
A71	[96] Oct Brass & [103] Trombone	————
A72	[98] Synth Brass2	[102] (Trumpet)
A73	[105] Bright Trumpet	[123] (Alto Growl)
A74	[110] French Horn	[141] (Poly Synth1)
A81	[67] JP Strings2 & [65] JP Pad1	————
A82	[79] Synth Vox2	[89] (Scat Vox)
A83	[143] Soft Pad	[164] (Sweep Pad1)
A84	[101] Rich Brass	[98] (Synth Brass2)

No.	Used Tone (Main Tone, Main & Sub)	Reserved Tone
B11	[24] Steel Guitar1 & [27] GTR Harmonics1	————
B12	[37] Banjo	[74] (Fiddle)
B13	[36] Pedal Steel	[89] (Scat Vox)
B14	[15] Vibes2	[106] (Mute Trumpet)
B21	[41] Acoustic Bass2	[1] (Acoustic Piano1)
B22	[48] Slap Bass2	[50] (Fretless Bass1)
B23	[50] Fretless Bass1	[40] (Acoustic Bass1)
B24	[56] Reso Bass1	[52] (Mini Bass1)
B31	[150] Synth Lead5 & [147]Synth Lead2	————
B32	[139] GR300 Lead & [33]Feed Back1	————
B33	[146] Synth Lead1	[100] (Brass Blust)
B34	[142] Tweety	[130] (Chiff Flute)
B41	[71] Violin	[72] (Cello1)
B42	[129] Clarinet	[119] (Flugel + Flute)
B43	[63] Dark Strings & [108] "Tp + Tb"	————
B44	[23] Pipe Organ1	[59] (Slow Strings)
B51	[38] Electric Sitar1	[81] (Vox Lead1)
B52	[180] Steel Drum	[16] (Marimba)
B53	[27] GTR Harmonics1	[83] (Chiff Pad)
B54	[19] Rock Organ1	[18] (Organ2)
B61	[160] Atmosphere & [82] Haunt Vox	————
B62	[177] Fantasia1	[178] (Fanta Pad)
B63	[163] Pluck Sweep2	[110] (French Horn)
B64	[77] Synth Harp & [166] Hellow Pad	————
B71	[68] Hybrid Strings1 & [80] Double Vox	————
B72	[174] Tinkle Bell	[27] (GTR Harmonics1)
B73	[96] Oct Brass & [109] "Trombone + Sax"	————
B74	[131] "Mute TP + Flute" & [14] Vibes1	————
B81	[20] Jazz Organ1 / [50] Fretless Bass1	————
B82	[15] Vibes2 / [41] Acoustic Bass2	————
B83	[141] Poly Synth1 /[55] Oct Bass2	————
B84	[50] Fretless Bass1 /[6] Electric Grand	————

Parameter List (Blank Chart)

** You can use this chart as a Blank Chart. (please take a copy of this page.)*

BLANK CHART for the GR-09 Guitar Synthesizer

Patch Parameter

PATCH [ ] name :

MAIN TONE # = [ ]
SUB TONE # = [ ] 1 >> 180 (1 >> 360)

ATTACK = [ ]
RELEASE = [ ]
BRIGHTNESS = [ ] -50 >> 0 >> 50

LAYER

	string ALL	6	5	4	3	2	1	MIDI
mute	-	-	-	-	-	-	-	
main only	┐	┐	┐	┐	┐	┐	┐	
sub only	┐	┐	┐	┐	┐	┐	┐	ON
both	┤	┤	┤	┤	┤	┤	┤	:
det. weak	d	d	d	d	d	d	d	OFF
det. strong	d	d	d	d	d	d	d	

NOTE SHIFT [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] -36 >> 24

TONE BALANCE = [ ] -50 >> 0 >> 50
PATCH LEVEL = [ ] 0 >> 100
REVERB TYPE = ro, HL, PL, dL, Pd [ ] 1 >> 2 (>> 8)
REVERB LEVEL = [ ] 0 >> 100
CHORUS TYPE = Cr, FL, Sd, SE [ ] 1 >> 2 (>> 9)
PLAY FEEL = nor. Fin. Hrd, SFt. tAP. no.d
EDIT TARGET = duL. Sin. int. un.b.
PITCH SHIFT= UP / dn [ ] 1 >> 8
EXP ASSIGN = [ ] 1 >> 7

System Parameter

MASTER TUNE A = [4 .] Hz 27.2 >> 52.2
SENSITIVITY 6 = [ ], 5 = [ ], 4 = [ ], 3 = [ ], 2 = [ ], 1 = [ ] 1 >> 8
MIDI CHANNEL = [ ]CH. M / P 1 >> 11 (>> 16)
BEND RANGE = [ ] 0, 1, 2, 4, 5, 7, 12, 24

ROLAND EXCLUSIVE MESSAGES

1. Data Format for Exclusive Messages

Roland's MIDI implementation uses the following data format for all Exclusive messages (type IV):

Byte	Description
F0H	Exclusive Status
41H	Manufacturer ID (Roland)
DEV	Device ID
MDL	Model ID
CMD	Command ID
[BODY]	Main data
F7H	End of exclusive

•MIDI status: F0H, F7H

An Exclusive message must be flanked by a pair of status codes, starting with a Manufacturer ID immediately after F0H (MIDI version 1.0).

•Manufacturer ID: 41H

The Manufacturer ID identifies the manufacturer of a MIDI instrument that sends an Exclusive message. Value 41H represents Roland's Manufacturer ID.

•Device ID: DEV

The Device ID contains a unique value that identifies individual devices in the implementation of several MIDI instruments. It is usually set to 00H–0FH, a value smaller by one than that of a basic channel, but value 00H–1FH may be used for a device with several basic channels.

•Model ID: MDL

The Model ID contains a value that identifies one model from another. Different models, however, may share an identical Model ID if they handle similar data.

The Model ID format may contain 00H in one or more places to provide an extended data field. The following are examples of valid Model IDs, each representing a unique model:

01H
02H
03H
00H, 01H
00H, 02H
00H, 00H, 01H

•Command ID: CMD

The Command ID indicates the function of an Exclusive message. The Command ID format may contain 00H in one or more places to provide an extended data field. The following are examples of valid Command IDs, each representing a unique function:

01H
02H
03H
00H, 01H
00H, 02H
00H, 00H, 01H

•Main data: BODY

This field contains a message to be exchanged across an interface. The exact data size and content will vary with the Model ID and Command ID.

2. Address-mapped Data Transfer

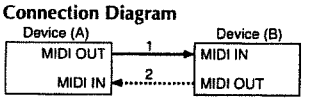
Address mapping is a technique for transferring messages conforming to the data format given in Section 1. It assigns a series of memory-resident records—waveform and tone data, switch status, and parameters, for example, to specific locations in a machine-dependent address space, thereby allowing access to data residing at the address a message specifies.

Address-mapped data transfer is therefore independent of models and data categories. This technique allows use of two different transfer procedures: one-way transfer and handshake transfer.

•One-way transfer procedure (See Section 3 for details.)

This procedure is suited to the transfer of a small amount of data. It sends out an Exclusive message completely independent of the receiving device's status.

Connection Diagram

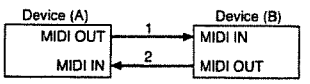


Connection at point 2 is essential for "Request data" procedures. (See Section 3.)

•Handshake-transfer procedure

(This device does not use this procedure)
This procedure initiates a predetermined transfer sequence (handshaking) across the interface before data transfer takes place. Handshaking ensures that reliability and transfer speed are high enough to handle a large amount of data.

Connection Diagram



Connection at points 1 and 2 is essential.

Notes on the above procedures

* There are separate Command IDs for different transfer procedures.

* Devices A and B cannot exchange data unless they use the same transfer procedure, share identical Device ID and Model ID, and are ready for communication.

3. One-way Transfer Procedure

This procedure sends out data until it has all been sent and is used when the messages are so short that answerbacks need not be checked.
For longer messages, however, the receiving device must acquire each message in time with the transfer sequence, which inserts 20 milliseconds intervals.

Types of Messages

Message	Command ID
Request data 1	RQ1 (11H)
Data set 1	DT1 (12H)

•Request data #1: RQ1 (11H)

This message is sent out when there is a need to acquire data from a device at the other end of the interface. It contains data for the address and size that specify designation and length, respectively, of data required.
On receiving an RQ1 message, the remote device checks its memory for the data address and size that satisfy the request. If it finds them and is ready for communication, the device will transmit a "Data set 1 (DT1)" message, which contains the requested data. Otherwise, the device won't send out anything.

Byte	Description
F0H	Exclusive Status
41H	Manufacturer ID (Roland)
DEV	Device ID
MDL	Model ID
11H	Command ID
aaH	Address MSB
I	I
I	I
	LSB
ssH	Size MSB
I	I
I	I
	LSB
sum	Check sum
F7H	End of exclusive

* The size of the requested data does not indicate the number of bytes that will make up a DT1 message, but represents the address fields where the requested data resides.

* Some models are subject to limitations in data format used for a single transaction. Requested data, for example, may have a limit in length or must be divided into predetermined address fields before it is exchanged across the interface.

* The same number of bytes comprises address and size data, which, however, vary with the Model ID.

* The error-checking process uses a checksum that provides a bit pattern where the last 7 bits are zero when values for an address, size, and that checksum are summed.

•Data set 1: DT1 (12H)

This message corresponds to the actual data transfer process. Because every byte in the data is assigned a unique address, a DT1 message can convey the starting address of one or more bits of data as well as a series of data formatted in an address-dependent order.

The MIDI standards inhibit non real-time messages from interrupting an Exclusive one. This fact is inconvenient for devices that support a "soft-thru" function. To maintain compatibility with such devices, Roland has limited the DT1 to 256 bytes so that an excessively long message is sent out in separate 'segments'.

Byte	Description
F0H	Exclusive Status
41H	Manufacturer ID (Roland)
DEV	Device ID
MDL	Model ID
12H	Command ID
aaH	Address MSB
I	I
I	I
	LSB
ddH	Data MSB
I	I
I	I
	LSB
sum	Check sum
F7H	End of exclusive

* A DT1 message is capable of providing only the valid data among those specified by an RQ1 message.

* Some models are subject to limitations in data format used for a single transaction. Requested data, for example, may have a limit in length or must be divided into predetermined address fields before it is exchanged across the interface.

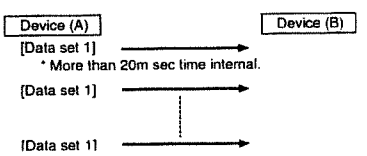
* The number of bytes comprising address data varies from one Model ID to another.

* The error-checking process uses a checksum that provides a bit pattern where the last 7 bits are zero when values for an address, size, and that checksum are summed.

•Example of Message Transactions

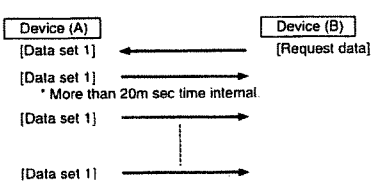
• Device A sending data to Device B

Transfer of a DT1 message is all that takes place.



• Device B requesting data from Device A

Device B sends an RQ1 message to Device A. Checking the message, Device A sends a DT1 message back to Device B.



1. Recognized Receive Data

■ Channel Voice Message

○ Note Off

STATUS	SECOND	THIRD
8nH	kkH	vvH
9nH	kkH	00H

n=MIDI Channel Number :0H - FH (0 - 15) 0=ch.1 15=ch.16
kk=Note Number :00H - 7FH (0 - 127)
vv=Velocity :ignored

○ Note On

STATUS	SECOND	THIRD
9nH	kkH	vvH

n=MIDI Channel Number :0H - FH (0 - 15) 0=ch.1 15=ch.16
kk=Note Number :00H - 7FH (0 - 127)
vv=Velocity :01H - 7FH (1 - 127)

○ Control Change

• Modulation

STATUS	SECOND	THIRD
BnH	01H	vvH

n=MIDI Channel Number :0H - FH (0 - 15) 0=ch.1 15=ch.16
vv=Modulation Depth :00H - 7FH (0 - 127)

* *Can be received only through the Basic channel.*

• Volume

STATUS	SECOND	THIRD
BnH	07H	vvH

n=MIDI Channel Number :0H - FH (0 - 15) 0=ch.1 15=ch.16
vv=Volume :00H - 7FH (0 - 127)

* *Can be received only through the Basic channel.*

• General Purpose #1

STATUS	SECOND	THIRD
BnH	10H	vvH

n=MIDI Channel Number :0H - FH (0 - 15) 0=ch.1 15=ch.16
vv=Control Value :00H - 7FH (0 - 127)

* *Can be received only through the Basic channel.*
* *Having received this massage, the GR-09 acts as if the expression pedal is operated (only when you select the function "2", "3," or "4" for expression pedal).*

• Hold1

STATUS	SECOND	THIRD
BnH	40H	vvH

n=MIDI Channel Number :0H - FH (0 - 15) 0=ch.1 15=ch.16
vv=Control Value :00H - 7FH (0 - 127) 0-63=OFF,64-127=ON

* *Can be received only through the Basic channel.*
* *Can be received only in the Poly receive Mode.*

○ Program Change

STATUS	SECOND
CnH	ppH

n=MIDI Channel Number :0H - FH (0 - 15) 0=ch.1 15=ch.16
pp=Program Number :00H - 7FH (0 - 127)

* *Can be received only through the Basic channel.*

○ Pitch Bend Change

STATUS	SECOND	THIRD
EnH	llH	mmH

n=MIDI Channel Number :0H - FH (0 - 15) 0=ch.1 15=ch.16
mm,ll=Value :00H,00H - 7FH,7FH (-8192 - +8191)

■ Channel Mode Message

○ All Note Off

STATUS	SECOND	THIRD
BnH	7BH	00H

n=MIDI Channel Number :0H - FH (0 - 15) 0=ch.1 15=ch.16

* *Can be received only through the Basic channel.*
* *Turn off all notes that are now on .*

○ OMNI OFF

STATUS	SECOND	THIRD
BnH	7CH	00H

n=MIDI Channel Number :0H - FH (0 - 15) 0=ch.1 15=ch.16

* *Can be received only through the Basic channel.*
* *Will act the same as All Note Off.*

○ OMNI ON

STATUS	SECOND	THIRD
BnH	7DH	00H

n=MIDI Channel Number :0H - FH (0 - 15) 0=ch.1 15=ch.16

* *Can be received only through the Basic channel.*
* *Will act the same as All Note Off.*

○ MONO

STATUS	SECOND	THIRD
BnH	7EH	mmH

n=MIDI Channel Number :0H - FH (0 - 15) 0=ch.1 15=ch.16
mm=Number of Individual Channels :ignored

* *Can be received only through the Basic channel.*
* *Will act the same as All Note Off.*

○ POLY

STATUS	SECOND	THIRD
BnH	7FH	00H

n=MIDI Channel Number :0H - FH (0 - 15) 0=ch.1 15=ch.16

* *Can be received only through the Basic channel.*
* *Will act the same as All Note Off.*

■ System Exclusive Message

STATUS	DATA BYTES
F0H	iiH ddH .....eeH
F7H	

F0H :System Exclusive
ii = Manufacturer ID:41H (65)
dd .....ee = Data: 00H - 7FH (0 - 127)
F7H : EOX (End of Exclusive)

* *Refer to Section 3, 4, and the pages of "Roland Exclusive Message" for more detailed information.*

■ System Realtime Message

❍ Active Sensing

STATUS
FEH

* *Having received this massage, GR-09 expects to receive information of any status of data during about 400msec. If GR-09 doesn't receive any massage during that time, it acts as if the All Note Off massage is received, and returns to normal operation (will not check interval of massages).*

2. Transmitted Data

■ Channel Voice Message

❍ Note Off

STATUS	SECOND	THIRD
9nH	kkH	00H

n=MIDI Channel Number :0H - FH (0 - 15) 0=ch.1 15=ch.16
kk=Note Number :00H - 7FH (0 - 127)

❍ Note On

STATUS	SECOND	THIRD
9nH	kkH	vvH

n=MIDI Channel Number :0H - FH (0 - 15) 0=ch.1 15=ch.16
kk=Note Number :00H - 7FH (0 - 127)
vv=Velocity :01H - 7FH (1 - 127)

❍ Control Change

• Modulation

STATUS	SECOND	THIRD
BnH	01H	vvH

n=MIDI Channel Number :0H - FH (0 - 15) 0=ch.1 15=ch.16
vv=Modulation Depth :00H - 7FH (0 - 127)

• Volume

STATUS	SECOND	THIRD
BnH	07H	vvH

n=MIDI Channel Number :0H - FH (0 - 15) 0=ch.1 15=ch.16
vv=Volume :00H - 7FH (0 - 127)

• General Purpose #1

STATUS	SECOND	THIRD
BnH	10H	vvH

n=MIDI Channel Number :0H - FH (0 - 15) 0=ch.1 15=ch.16
vv=Control Value :00H - 7FH (0 - 127)

❍ Program Change

STATUS	SECOND
CnH	ppH

n=MIDI Channel Number :0H - FH (0 - 15) 0=ch.1 15=ch.16
pp=Program Number :00H - 7FH (0 - 127)

❍ Pitch Bend Change

STATUS	SECOND	THIRD
EnH	llH	mmH

n=MIDI Channel Number :0H - FH (0 - 15) 0=ch.1 15=ch.16
mm,ll=Value :00H,00H - 7FH,7FH (-8192 - +8191)

■ System Realtime Message

❍ Active Sensing

STATUS
FEH

* *This massage is always transmitted during about 270msec.*

■ System Exclusive Message

STATUS	DATA BYTES
F0H	iiH,ddH,.....,eeH
F7H	

F0H :System Exclusive
ii=Manufacturer ID :41H (65)
dd,...,ee=Data :00H-7FH (0-127)
F7H :EOX (End of Exclusive/System Common Massage)

* *Refer to Section 3, 4, and the pages of "Roland Exclusive Message" for more detailed information.*

3. Exclusive Communications

The GR-09 can transmit (or receive) system and patches parameters using system exclusive messages.
Model ID of GR-09 is 67H.
Device ID of GR-09 is fixed at 10H.

❍ Request Data 1: RQ1 (11H)

This message is to request the GR-09 to transmit its parameters.
The GR-09 itself does not send this message.
When the GR-09 receives this message, it responds with appropriate parameters if the following conditions are satisfied:

1. **The addresses indicated with RQ1 matches with one of the parameter base address of the GR-09.**
2. **The requested size is larger than 1.**

With these conditions provided, the GR-09 transmits specified parameters in Data Set 1 (DT1) massage.

RQ1 structure is shown below.

Bytes	Comments	
F0H	System exclusive status	
41H	Manufacturer ID	(Roland)
10H	Device ID	(Dev=10H)
67H	Model ID	(GR-09)
11H	Command ID	(RQ1)
aaH	Address MSB	
bbH	Address	
ccH	Address LSB	
ssH	Size MSB	
ssH	Size	
ssH	Size LSB	
sum	Check sum byte	
F7H	EOX	(End Of Exclusive)

❍ Data Set 1: DT1 (12H)

* *Having received this massage, GR-09 acts as follows.*

If the address matches with one of the parameter base addresses of the GR-09, the received data is stored at the specified address of the memory.

The GR-09 transmits this message in the following conditions.
1. **When the GR-09 responds to RQ1 message.**
2. **The user executes Bulk Dump function.**

Regarding details of the parameters, please refer to the parameter address map.

The DT1 structure is shown below.

Bytes	Comments	
F0H	System exclusive status	
41H	Manufacturer ID	(Roland)
10H	Device ID	(Dev=10H)
67H	Mode ID	(GR-09)
12H	Command ID	(DT1)
aaH	Address MSB	
bbH	Address	
ccH	Address LSB	
ddH	Data	
:	:	
ffH	Data	
sum	Check sum byte	
F7H	EOX	(End Of Exclusive)

- **Model ID**

The model ID of GR-09 is 67H.

- **Device ID**

Device ID of GR-09 is fixed at 10H.

/ Example of creating the exclusive message /

If you wish to change the current Reverb Type to room2, create data as the following and send it to your GR-09.

F0H	41H	10H	67H	12H	02H	00H	19H	02H	63H	F7H
1	2	3	4	5	6			7	8	9

1. F0H is the exclusive status.
2. 41H is the Roland's manufacturer ID.
3. This is the device ID. (Fixed at 10H for GR-09.)
4. 67H is the model ID of the GR-09.
5. 12H is DT1 (data set) command ID.
6. These are the parameter addresses of the Reverb Type.
   Please find the start address of the temporary Patch from the table of the parameter Address Block. You can find the address as "02H 00H 00H".

   Next, please find the offset address of the Reverb Type from the table 4-2.That is 00H 19H. And add these address values. The result will be 02H 00H 19H.

```
  02H 00H 00H (the start address of the temporary patch)
+)   00H 19H (the offset address of the Reverb Type)
 ----------
  02H 00H 19H
```

7. Please find the Reverb Type value of "Room2". That is 2(= 02H).

8. This is the check sum byte. The error checking process uses a Checksum and provides a pattern where the last significant 7 bits are zero when values for an address, data(or size) and the Checksum are summed.

   If the address is "aa bb ccH" and the data (or the size) is "dd ee ffH"

   aa + bb + cc + dd + ee + ff = sum
   sum ÅÄ 128 = quotient ... remainder
   128 - remainder = checksum

   In case of this example,

F0H	41H	10H	67H	12H	02H	00H	19H	02H	??H	F7H
					address		data	checksum		

   Using the above formula, Checksum will be as follows.

   02H + 00H + 19H + 02H = 2 + 0 + 25 + 2 = 29(sum)
   29(sum) / 128 = 0(quotient) ...29(remainder)
   checksum = 128 - 29(remainder) = 99 = 63H

   If you calculate with hexadecimal,

   aa + bb + cc + dd + ee + ff = sum(xxH)
   sum(xxH) / 80H = quotient...remainder
   80H - remainder = checksum

   Checksum will be as follows.

   02H + 00H + 19H + 02H = 1DH
   1DH / 80H = 00H(quotient) ...1DH(remainder)
   checksum = 80H - 1DH(remainder) = 63H

9. F7H is the mark of the end of exclusive.

4. Parameter Address Map

Addresses are expressed by 3 sets of 7 bits as shown below.

Address	MSB		LSB
Binary	0aaa aaaa	0bbb bbbb	0ccc cccc
7 bit, hex.	AA	BB	CC

Address	MSB		LSB
Binary	0sss ssss	0ttt tttt	0uuu uuuu
7 bit, hex.	SS	TT	UU

■ Parameter Address Block

Start address	Contents and remarks	
00 00 00	System Area	*4-1
01 00 00	Patch All	*4-2
:	:	
01 7F 00	Patch D84	
02 00 00	Temporary Patch	*4-2

*4-1 System Area

Offset address	Data	Contents and remarks	
00 00 00	0000 - 017F	Master Tune LSB	427.2-452.7Hz
00 00 01		Master Tune MSB	(+/-50cent)
		0000H = 427.2Hz	
		: :	
		0100H = 440.0Hz	
		: :	
		017FH = 452.7Hz	
00 00 02	00 - 07	String Sens (string #1)	1-8
:		: :	
00 00 07		String Sens (string #6)	
00 00 08	00 - 1A	Basic Channel	MONO 1-11,POLY 1-16
00 00 09	00 - 07	Bend Range	0,1,2,4,5,7,12,24

/ Example using RQ1 /
To extract all the system parameters from the GR-09, send the following message to the GR-09 .

F0 41 10 67 11 00 00 00 00 00 0A 76 F7

/ Example using DT1 /
To change the sensitivity of the 3rd string, send the following message to the GR-09.

F0 41 10 67 12 00 00 04 02 7A F7

*4-2 Patch

Offset address	Data	Contents and remarks	
00 00 00	0000 - 0267	Main Tone Number LSB	1-360
00 00 01		Main Tone Number MSB	[*1]
00 00 02	0000 - 0267	Sub Tone Number LSB	1-360
00 00 03		Sub Tone Number MSB	[*1]
00 00 04	00 - 64	Patch Level	0-100
00 00 05	0E 72	Tone Balance	-50 - +50 [*2]
00 00 06	00 - 01	Chromatic	OFF,ON
00 00 07	0E - 72	Attack	-50 - +50 [*2]
00 00 08	0E - 72	Release	-50 - +50 [*2]
00 00 09	0E - 72	Brightness	-50 - +50 [*2]
00 00 0A : 00 00 0F	00 - 05	Layer Type (string #1) : : Layer Type (string #6)	Type 1-6
00 00 10	00 - 01	MIDI Out Switch	OFF,ON
00 00 11 : 00 00 16 00 00 17	1C - 58	Note Shift (string #1) : : Note Shift (string #6) Note Shift (MIDI out)	-36 - +24 [*2]
00 00 18	00 - 03	Edit Target	Type 1-4
00 00 19	00 - 1F	Reverb Type	[*3]
00 00 1A	00 - 64	Reverb Level	0-100
00 00 1B	00 - 19	Chorus Type	[*4]
00 00 1C	00 - 05	Play Feel	[*5]
00 00 1D	00 - 0F	Pitch Shift	Down 8-1,Up 1-8
00 00 1E	00 - 06	EV-5 Assign	1-7

[*1]: 0000H = Tone #1 , 007FH = Tone #128 , 0100H = Tone #129
0267H = Tone #360
[*2]: 40H = +-0
[*3]: Off, Room 1-8, Hall 1-6, Plate 1-3, Delay 1-8, Panning Delay 1-6
[*4]: Off, Chorus 1-9, Flanger 1-8, Short Delay 1-6, SE 1-2
[*5]: Normal, Finger, Hard, Soft, Tapping, No Dynamics

/ Example using RQ1 /
To extract the all parameters' value of the patch "A12", send the following message to the GR-09 .

F0 41 10 67 11 01 01 00 00 00 1F 5F F7

/ Example using DT1 /
To change the Brightness of temporary patch to +10, send the following message to the GR-09.

F0 41 10 67 12 02 00 09 4A 2B F7

○ A-1 Decimal VS Hexadecimal

With a MIDI system the data value, the address, or size in an exclusive massage is expressed in 7bit hexadecimal values. The table below shows decimal value and their hexadecimal counterparts.

Decimal	Hex	Decimal	Hex	Decimal	Hex	Decimal	Hex
0	00H	32	20H	64	40H	96	60H
1	01H	33	21H	65	41H	97	61H
2	02H	34	22H	66	42H	98	62H
3	03H	35	23H	67	43H	99	63H
4	04H	36	24H	68	44H	100	64H
5	05H	37	25H	69	45H	101	65H
6	06H	38	26H	70	46H	102	66H
7	07H	39	27H	71	47H	103	67H
8	08H	40	28H	72	48H	104	68H
9	09H	41	29H	73	49H	105	69H
10	0AH	42	2AH	74	4AH	106	6AH
11	0BH	43	2BH	75	4BH	107	6BH
12	0CH	44	2CH	76	4CH	108	6CH
13	0DH	45	2DH	77	4DH	109	6DH
14	0EH	46	2EH	78	4EH	110	6EH
15	0FH	47	2FH	79	4FH	111	6FH
16	10H	48	30H	80	50H	112	70H
17	11H	49	31H	81	51H	113	71H
18	12H	50	32H	82	52H	114	72H
19	13H	51	33H	83	53H	115	73H
20	14H	52	34H	84	54H	116	74H
21	15H	53	35H	85	55H	117	75H
22	16H	54	36H	86	56H	118	76H
23	17H	55	37H	87	57H	119	77H
24	18H	56	38H	88	58H	120	78H
25	19H	57	39H	89	59H	121	79H
26	1AH	58	3AH	90	5AH	122	7AH
27	1BH	69	3BH	91	5BH	123	7BH
28	1CH	60	3CH	92	5CH	124	7CH
29	1DH	61	3DH	93	5DH	125	7DH
30	1EH	62	3EH	94	5EH	126	7EH
31	1FH	63	3FH	95	5FH	127	7FH

* *When expressing a MIDI channel number or a program change number, please notice that the values are less by one. For example, MIDI channel is expressed as 0 through 15* in stead of 1 through 16.

* *The range of 7 bit can express 128 steps from 0 to 127. To express broader range, use several data bytes.*

Guitar Synthesizer
Model GR–09

MIDI Implementation Chart

Date : Nov. 30, 1993
Version : 1.00

Function...		Transmitted	Recognized	Remarks
Basic	Default	1 — 16	1 — 16	*1
Channel	Changed	1 — 16	1 — 16	*4
Mode	Default	Mode 3, 4 (M=6) *1	Mode 3, 4 (M=6)	
	Messages	x	x	
	Altered	**********		
Note Number :	True Voice	O 0 — 127 **********	0 — 127	
Velocity	Note ON	O 9n v=1 — 127	O	
	Note OFF	x 9n v=0	x	
After Touch	Key's	x	x	
	Ch's	x	x	
Pitch Bend		O	O	
Control Change	1	O	O *2	Modulation
	7	O	O *2	Volume
	16	O	O *2 *5	General Purpose #1
	64	x	O *3	Hold 1
Prog Change	: True #	O **********	O *2	
System Exclucive		x	x	
System Common	: Song Pos	x	x	
	: Song Sel	x	x	
	: Tune	x	x	
System Real Time	: Clock	x	x	
	: Commands	x	x	
Aux Message	: Local ON/OFF	x	x	
	: All Notes OFF	x	O (123 — 127) *2	
	: Active Sense	O	O	
	: Reset	x	x	
Notes		*1 Can be memorized after powering off. *2 Can be recognozed only through the basic channel. *3 Can be recognozed only in Poly mode reception. *4 Can be choosen only from 1 to 11 in Mono mode transmission. *5 Be recognized as the data for some of the expression pedal function.		

Mode 1 : OMNI ON, POLY Mode 2 : OMNI ON, MONO O : Yes
Mode 3 : OMNI OFF, POLY Mode 4 : OMNI OFF, MONO X : No

Specifications

Guitar Synthesizer : GR-09

Sound Source

1 Part (Mono mode M=6 / Poly mode switchable)

Maximum Polyphony

28 voices

Memory

System Setup: 1
Original Tones: 180
(expandable to 360 with optional Expansion Kit)
Patches: 128 (64 Factory Pre-sets)

Effects

Reverb, Chorus

Display

7 segments, 3 lines (LED)

Connectors/Jacks

Mix Out Jacks (L/PHONES, R/MONO)
Guitar Out Jack
Guitar Return Jack
Bank Shift Jack
Expression Pedal Jack
GK IN Connector
MIDI Connectors (In, Out)
AC Adaptor Jack

Power Supply

AC 12 V (AC Adaptor)

Current Draw

230 mA

Dimensions

302 (W) x 274 (D) x 58 (H) mm
11-15/16 (W) x 10-13/16 (D) x 2-5/16 inches

Weight

1.6 kg / 3 lbs 9 oz
(excluding the AC Adaptor)

Accessories

Owner's Manual
AC Adaptor
GK Connecting Cable (C-13A :5m)

Options

Synthesizer Driver GK-2A
Tone Expansion Kit GR9E-1
GK Connecting Cable (C-13B :10m)

* ***In the interest of products the specifications and/or appearance of this unit are subject to change without prior notice.***

QUICK REFERENCE TO PROCEDURES

< Normal Performance >

To switch Patches:
→ **Press either the [+] or [-] button, or depress a pedal. (p. 18)**

To switch the Patch Bank:
→ **From the Play mode, press S1 on the GK-2A and use the pedals on the unit. (p. 19)**
You can also connect an external foot switch to the BANK SHIFT jack and use that instead. (p. 21)

To listen to every Tone one by one:
→ **Select an empty Patch (when the unit is new, Patch Groups C and D), and switch through the Main Tones using the procedure on p. 33.**

To match the overall tuning of the GR-09 with that of another instrument:
→ **From the Edit mode, set the MODE dial to MASTER TUNE, then adjust the pitch using the [+]/[-] buttons. (p. 29)**

To select the Guitar Tuner function:
→ **From the Play mode, hold down S1 on the GK-2A while you depress the pedal on the far left. (p. 15)**

To hear a demo performance of typical Patches:
→ **Turn on the power while holding down the far left pedal and press [EDIT/PLAY]. (p. 24)**

To obtain the Hold effect, continuous pitch fluctuations, or a mechanical vibrato effect:
→ **Press S2 on the GK-2A once to enter the Pedal Function mode. Then step on a pedal to obtain the desired effect. (p. 22)**

To obtain effects such as changes in volume, timbre, or pitch using the EV-5:
→ **Connect an EV-5 to the EXP PEDAL jack and specify the function to be obtained for each Patch. (p. 52)**

To have 'fingered' or 'tapping' playing styles reproduced properly:
→ **Select a "Play Feel" that fits the playing style to be used for the Patch. (p. 46)**

To apply external effects to the guitar sound when using only one amplifier:
→ **Use the GUITAR OUT jack and the GUITAR RETURN jack. (p. 13)**

To adjust the sensitivity of the pickup for every string:
→ **From the Edit mode, move the MODE dial to SENSITIVITY. Then make the adjustment for each string as you play using the [+]/[-] buttons. (p. 16)**

< Sound Editing >

To select the Tone from the Original Tone group that is to be used for a Patch:
→ **Get into the Edit mode, then make the setting for the MAIN TONE # of PATCH EDIT 1. (p. 33)**
Also, you can make the setting for SUB TONE # for PATCH EDIT 2. (p. 33)

To have 2 Tones layered together:
→ **Make settings for Layer so both a Main and Sub Tone will be sounded for every string. (p. 36)**

To play only the Main Tone or the Sub Tone depending on the string:
→ **Using the setting for Layer, set individual strings so that only the Main or Sub Tone is assigned to it. (p. 36)**

To detune either the Main or Sub Tone:
→ **Make a setting of Detune Weak (d) or Detune Strong (d.) for the Layer for each string. (p. 36)**

To assign a synth sound to only some of the strings:
→ **Set Layer so that the synth sound will not be heard for selected strings. (p. 36)**

To reproduce altered forms of tuning, such as open tuning, using the synth sound:
→ **Make different settings for Note Shift for each string and set the Select Switch of the GK–2A to "SYNTH." (p. 37)**

To change the volume balance for both the Main and Sub Tones:
→ **Change the TONE BALANCE of PATCH EDIT 1 from the Edit mode. (p. 38)**

To eliminate chorus or reverb:
→ **Set the Reverb Type (p. 42) or the Chorus Type (p. 44) to OFF.**

To use reverb as a delay:
→ **Set the Reverb Type to dL 1 to 8, or to Pd1 to 6. (p. 42)**

To use chorus for flanging:
→ **Set the Chorus Type to FL1 to 8. (p. 44)**

To set a different volume for a Patch (for solo or backing):
→ **Make settings for the Patch Level which are suitable for the particular Patch. (p. 39)**

To change a sound's brightness:
→ **Change BRIGHTNESS for PATCH EDIT 1 from the Edit mode. (p. 34)**

To change the length of a sound's attack or release:
→ **From the Edit mode, alter the ATTACK or RELEASE for PATCH EDIT 1. (p. 34)**

To set the pitch difference of a fifth or an octave between the synth sound and the guitar sound:
→ **Set the Edit Target (p. 48) to "dUL" or "Un.b," then using Note Shift (p. 37), set the amount by which the pitch will be different from the guitar sound, for all strings/each string.**

To have several intervals of pitch difference between the Main and Sub Tones:
→ **First set the Edit Target (p. 48) to "Sin" or "int," then specify the pitch difference between both Tones for all strings/each string using Note Shift. (p. 37)**

To have editing for attack, release, and brightness apply only to the Main Tone:
→ **First set the Edit Target to "Sin" or "Un.b" (p. 48), then carry out the editing. (p. 34)**

To store your editing changes as a Patch (Write):
→ **From the Edit mode, set the MODE dial to WRITE, then press [+] and [-] simultaneously. When you want to store the data at a different Patch number, use the "Write to ..." function first to specify the Write destination. (p. 28)**

To restore the Preset Patches while still preserving as many of your own Patches as possible:
→ **Copy any Patches in Patch Groups A and B that you do not want to have erased into Patch Groups C and D (p. 28). Then call up the Preset Patches using the method explained on p. 30.**

< MIDI >

To change the MIDI transmission channel:
→ **Set the MODE dial to MIDI CHANNEL from the Edit mode, and change the channel using the [+]/[-] buttons. (p. 58)**

To control an external sound module using only a single channel:
→ **When making the settings for the MIDI CHANNEL, select Poly transmission 1-16 rather than Mono transmission 1-11. (p. 58)**

To set the unit to the MIDI Local OFF status:
→ **Set the STRING SELECT knob to MIDI (MUTE).**

To shift the pitch of an external sound module with respect to the guitar and internal sound generator by a fifth, an octave, or whatever:
→ **When making the settings for Note Shift (p. 37), you can move the STRING SELECT knob to MIDI (MUTE) and perform the editing necessary to transpose the MIDI performance data that is sent to the external sound module.**

To transmit low-pitched notes (or high-pitched notes) that are outside the range of the guitar over MIDI:
→ **When making the settings for Note Shift (p. 37), set the STRING SELECT knob to MIDI (MUTE). You can then select a setting for the amount you want to raise or lower the pitch of all performance information that is sent to an external device. (Such as "12" or "-12," which will, respectively, raise or lower the pitch by an octave.)**

To reduce the amount of data being input to a sequencer by thinning out the Bend messages being sent:
→ **After you turn on the power while holding down the [+] button, the quantity of Bend data that will be transmitted will be reduced (until you turn the unit off and then on again). (p. 64)**

To transmit performance data to an external device that does not respond to Pitch Bend data:
→ **Set the Bend Range (p. 58) (System parameter) to "0." (Pitch fluctuations will then occur in semitone steps.)**

To use the GR-09 as a sound generator for another instrument:
→ **If you turn on the power while holding down the [-] button, the unit will operate as a polyphonic sound generating module until it is turned off and then on again. (p. 62) In this case, it is set automatically to MIDI Local Off.**

To send Patch data to an external sequencer or another GR-09:
→ **Turn on the power while Pedal 3 is depressed. Then select the Patch that you want to send using the [+]/[-] buttons, and press [EDIT/PLAY] to send it. (p. 65)**

To use the EV-5 to control a specific parameter on an external device:
→ **First, set the EXP ASSIGN parameter to "7" using the procedure on p. 53. Then connect the external device to MIDI OUT, and set the MIDI channels to match, as explained on p. 58. Next, you need to set your external device so that the parameter you want to control will be altered as a result of Control Change #16. Then using an EV-5 connected to the GR-09, you will be able to control that parameter.**

< Other >

To restore the original factory settings (Initialization):
→ **Turn on the power while holding down Pedal 2. Then press the [+] button, followed by [EDIT/PLAY]. (Keep in mind that this will erase all of the original Patches you have created!) (p. 30)**

To increase the number of Original Tones:
→ **By installing the optionally available GR9E-1 Expansion Kit, you can increase the number of Original Tones from 180 (2 Mbytes), to 360 (6 Mbytes). Please consult your Roland retailer.**

To extend the supplied (5 m) cable:
→ **A 10 m cable (C-13B) is optionally available. Please consult your Roland retailer.**

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Roland®

Tone List

GUITAR SYNTHESIZER
GR-09

Internal Tones
インターナル・トーン

No.	Name	No.	Name	No.	Name	No.	Name
1	Acoustic Piano1	46	Pick Bass4	91	Nylon Scat	136	Blow Pipe
2	Acoustic Piano2	47	Slap Bass1	92	Pluck-Doo	137	Harmonica
3	Honky Tonk	48	Slap Bass2	93	Brass Section1	138	Whistle
4	Electric Piano1	49	Detuned Slap	94	Brass Section2	139	GR300 Lead
5	Electric Piano2	50	Fretless Bass1	95	Brass Section3	140	Plain Lead
6	Electric Grand	51	Fretless Bass2	96	Oct Brass	141	Poly Synth1
7	POP E.Piano	52	Mini Bass1	97	Synth Brass1	142	Tweety
8	Rhodes	53	Mini Bass2	98	Synth Brass2	143	Soft Pad
9	Over Tone	54	Oct Bass1	99	Synth Brass3	144	Metal Pad1
10	A.Piano + VIB	55	Oct Bass2	100	Brass Blust	145	Square Lead1
11	A.Piano + VOX	56	Reso Bass1	101	Rich Brass	146	Synth Lead1
12	Clav1	57	Pedal Bass	102	Trumpet	147	Synth Lead2
13	Clav2	58	Fast Strings	103	Trombone	148	Synth Lead3
14	Vibes1	59	Slow Strings	104	Tuba	149	Synth Lead4
15	Vibes2	60	Oct Strings	105	Bright Trumpet	150	Synth Lead5
16	Marimba	61	Bowed Strings	106	Mute Trumpet	151	5th Lead1
17	Organ1	62	Bright Strings1	107	Alto Sax + Tp	152	Saw Lead
18	Organ2	63	Dark Strings	108	Tp + Tb	153	Fat Lead
19	Rock Organ1	64	JP Strings1	109	Trombone + Sax	154	Saw Pad
20	Jazz Organ1	65	JP Pad1	110	French Horn	155	Pulse Pad
21	Jazz Organ2	66	Oct JP Strings	111	Flugel Horn	156	Techno
22	Cheeso	67	JP Strings2	112	Detuned Horn	157	Ominous
23	Pipe Organ1	68	Hybrid Strings1	113	Velocity Horn	158	Harp Pad
24	Steel Guitar1	69	Hybrid Strings2	114	Dual Horn	159	Invisible
25	Nyln Guitar	70	Hybrid Strings3	115	Pulse Horn	160	Atmosphere
26	12Str Guitar1	71	Violin	116	Synth Horn	161	Digital Pluck
27	GTR Harmonics1	72	Cello1	117	Breathy Horn	162	Pluck Sweep1
28	GTR Harmonics2	73	Contra Bass	118	Flugel + Trumpet	163	Pluck Sweep2
29	Distortion GTR1	74	Fiddle	119	Flugel + Flute	164	Sweep Pad1
30	Distortion GTR2	75	Wire String	120	Alto Sax	165	Octave Pad1
31	Guitar Clav	76	Harp	121	Tenor Sax	166	Hellow Pad
32	Guitar Lead	77	Synth Harp	122	Soprano Sax	167	Choir Pad
33	Feed Back1	78	Synth Vox1	123	Alto Growl	168	Digital Bow
34	Feed Back2	79	Synth Vox2	124	Tenor Growl	169	Digital Vox1
35	Only Feedback	80	Double Vox	125	Alto + Tenor	170	Soundtrack
36	Pedal Steel	81	Vox Lead1	126	Piccolo	171	Bowed Glass
37	Banjo	82	Haunt Vox	127	Flute	172	Heaven
38	Electric Sitar1	83	Chiff Pad	128	Oboe	173	Fanta Bell
39	Electric Sitar2	84	Breath	129	Clarinet	174	Tinkle Bell
40	Acoustic Bass1	85	Wind Vox	130	Chiff Flute	175	Synth Bell
41	Acoustic Bass2	86	Inversion	131	Mute TP + Flute	176	Sparkle Bell
42	Electric Bass1	87	Synth Harm	132	Vibe + Flute	177	Fantasia1
43	Pick Bass1	88	Echo Vox	133	Ocarina	178	Fanta Pad
44	Pick Bass2	89	Scat Vox	134	Calliope	179	Whisper
45	Pick Bass3	90	Double Scat	135	Bottle Blow	180	Steel Drum

Expanded Tones (GR9E-1 : Expansion Kit)
拡張トーン（別売のエクスパンション・キット：GR9E-1の取り付けが必要です。）

No.	Name	No.	Name	No.	Name	No.	Name
181	60's E.Piano1	226	Bass Solo	271	Reso Lead2	316	Temple
182	60's E.Piano2	227	Thud Bass	272	Square Lead2	317	Digital Chime
183	Spacy Piano	228	Sing Flute	273	Digital Lead	318	Alpha Bell
184	Electric Piano3	229	Bassoon	274	Backwards	319	Bell Aah
185	Electric Piano4	230	Soft Trumpet	275	Fuzz Lead	320	Bell Strings
186	Clav Stack	231	Solo Horn	276	5th Lead2	321	Crystal
187	Pain Clav	232	Hornz	277	Soft Lead	322	Glass Wave
188	Detuned Clav	233	Breathy Sax	278	Newage Lead	323	Sara Baby
189	Clav 3	234	Baritone Sax	279	Rock Lead	324	Bell Pluck
190	Pipe Organ2	235	Baritone + Tenor	280	Sweep Lead	325	GTR Pluck
191	Juno Organ	236	Trumpet + Sax2	281	GTR Orchestra	326	Brass Pluck
192	Full Organ	237	Bag Pipe	282	Crunch	327	Orchestra Hit1
193	Dual Pipe	238	Shakuhachi	283	Klack Lead	328	Orchestra Hit2
194	Road Organ	239	Indopipe	284	Digital Low	329	China Cymbal
195	60's Organ1	240	Cello2	285	Rip Lead	330	Ride Bell
196	Rock Organ2	241	Dynamic Cello	286	Brass Lead	331	Tambourine
197	Accordion	242	Pizzicato	287	Pulse Wave1	332	Bongo
198	Steel Guitar2	243	JP Strings3	288	Pulse Wave2	333	Timbales
199	12Str Guitar2	244	Bright Strings2	289	Saw Wave1	334	Cabasa
200	18Str Guitar	245	Choir	290	Saw Wave2	335	Hard Snare
201	Detuned Guitar	246	Airy Vox	291	Square Wave	336	Mondo Kick
202	Funk Guitar	247	Male Vox	292	Triangle Wave	337	Agogo
203	Guitar Pad	248	Double Male	293	Spectrum	338	Wood Block
204	12Str GTR Pad	249	Spectrum Vox	294	Utopia	339	Conga Set
205	Stratus	250	Doo Lead	295	Big Sweep	340	Conga
206	Bright Guitar	251	Percussive Vox	296	Square Sweep	341	Mute Conga
207	Synth Harpsicord	252	Vox Tree	297	Beehive	342	Synth Drum
208	Koto	253	Vox + Strings	298	Poly Synth2	343	Triangle
209	Shamisen	254	Pipe + Vox	299	JP Pad2	344	Timpani
210	Suntur	255	Bell Vox1	300	Vecter Pad1	345	Drum Kit
211	Pick Bass5	256	Digital Vox2	301	Vecter Pad2	346	Concert Bass Drum
212	8Str Bass	257	Vocoder	302	Octave Pad2	347	Taiko Drum
213	Fretnot Bass	258	Trombone Section	303	Hybrid Pad	348	Applause
214	Detuned Fretless	259	Brass Section4	304	Sweep Pad2	349	Bird
215	Rock Bass	260	sfz Brass	305	Full Out Pad	350	Smash
216	Attack Bass	261	Big Brass	306	Metal Pad2	351	Explosion
217	Muted Rock Bass	262	Synth Brass4	307	Pad Tree	352	Gun Shot
218	Saw Bass	263	Breathy Brass	308	Fantasy2	353	Laser Gun
219	Wow Bass	264	JP Brass	309	E.Piano + Pad	354	Scratch
220	Wet Bass	265	Soft Brass	310	Sparkle Pad	355	Thunder
221	Techno Bass	266	Spit Brass	311	Converge	356	Wind
222	Nasty Bass	267	Fluff Brass	312	Eternity	357	Air
223	Reso Bass2	268	GR700 Lead	313	Glocken	358	Wind Chime
224	Rasp Bass	269	Sync Lead	314	Sanza	359	Double Chime
225	Sync Bass	270	Reso Lead1	315	African	360	Pink Bomb

00341723 '93-12-EG2-11D

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Tones Used In The Preset Patches
プリセット・パッチで使われているトーン

GUITAR SYNTHESIZER
GR-09

No.	Used Tone (Main Tone, Main & Sub)	Reserved Tone
A11	[17] Organ2	[18](Organ1)
A12	[89] Scat Vox	[25] (Nyln Guitar)
A13	[100] Brass Blust	[110](French Horn)
A14	[25] Nyln Guitar & [70] Hybrid Strings3	————
A21	[44] Pick Bass	[56](Reso Bass1)
A22	[178] Fanta Pad & [79] Synth Vox2	————
A23	[127] Flute	[112](Detuned Horn)
A24	[1] Acoustic Piano1 & [59] Slow Strings	————
A31	[1] Acoustic Piano1	[59](Slow Strings)
A32	[7] POP E.Piano	[65] (JP Pad1)
A33	[20] Jazz Organ1 & [20] Jazz Organ1	————
A34	[12] Clav1	[75] (Wire String)
A41	[123] Alto Growl	[103](Trombone)
A42	[111] Flugel Horn	[127] (Flute)
A43	[103] Trombone	[120] (Alto Sax)
A44	[106] Mute Trumpet	[10] (A.Piano + VIB)
A51	[136] Blow Pipe	[99] (Synth Brass3)
A52	[137] Harmonica & [122] Soprano Sax	————
A53	[139] GR300 Lead	[115] (Pulse Horn)
A54	[145] Square Lead1	[152] (Saw Lead)
A61	[58] Fast Strings	[79] (Synth Vox2)
A62	[59] Slow Strings	[65] (JP Pad1)
A63	[68] Hybrid Strings1	[79] (Synth Vox2)
A64	[64] JP Strings1	[65] (JP Pad1)
A71	[96] Oct Brass & [103] Trombone	————
A72	[98] Synth Brass2	[102] (Trumpet)
A73	[105] Bright Trumpet	[123] (Alto Growl)
A74	[110] French Horn	[141] (Poly Synth1)
A81	[67] JP Strings2 & [65] JP Pad1	————
A82	[79] Synth Vox2	[89] (Scat Vox)
A83	[143] Soft Pad	[164] (Sweep Pad1)
A84	[101] Rich Brass	[98] (Synth Brass2)

No.	Used Tone (Main Tone, Main & Sub)	Reserved Tone
B11	[24] Steel Guitar1 & [27] GTR Harmonics1	————
B12	[37] Banjo	[74] (Fiddle)
B13	[36] Pedal Steel	[89] (Scat Vox)
B14	[15] Vibes2	[106] (Mute Trumpet)
B21	[41] Acoustic Bass2	[1] (Acoustic Piano1)
B22	[48] Slap Bass2	[50] (Fretless Bass1)
B23	[50] Fretless Bass1	[40] (Acoustic Bass1)
B24	[56] Reso Bass1	[52] (Mini Bass1)
B31	[150] Synth Lead5 & [147]Synth Lead2	————
B32	[139] GR300 Lead & [33]Feed Back1	————
B33	[146] Synth Lead1	[100] (Brass Blust)
B34	[142] Tweety	[130] (Chiff Flute)
B41	[71] Violin	[72] (Cello1)
B42	[129] Clarinet	[119] (Flugel + Flute)
B43	[63] Dark Strings & [108] "Tp + Tb"	————
B44	[23] Pipe Organ1	[59] (Slow Strings)
B51	[38] Electric Sitar1	[81] (Vox Lead1)
B52	[180] Steel Drum	[16] (Marimba)
B53	[27] GTR Harmonics1	[83] (Chiff Pad)
B54	[19] Rock Organ1	[18] (Organ2)
B61	[160] Atmosphere & [82] Haunt Vox	————
B62	[177] Fantasia1	[178] (Fanta Pad)
B63	[163] Pluck Sweep2	[110] (French Horn)
B64	[77] Synth Harp & [166] Hellow Pad	————
B71	[68] Hybrid Strings1 & [80] Double Vox	————
B72	[174] Tinkle Bell	[27] (GTR Harmonics1)
B73	[96] Oct Brass & [109] "Trombone + Sax"	————
B74	[131] "Mute TP + Flute" & [14] Vibes1	————
B81	[20] Jazz Organ1 / [50] Fretless Bass1	————
B82	[15] Vibes2 / [41] Acoustic Bass2	————
B83	[141] Poly Synth1 /[55] Oct Bass2	————
B84	[50] Fretless Bass1 /[6] Electric Grand	————

* *All Patches which don't contains a Sub Tone are nevertheless assigned a Reserved tone. This Reserved tone has been carefully selected to work with the Main Tone should you choose to use the Layer function (refer to the Owner's Manual; p. 36).*

* サブ・トーンを使用しないパッチには、メイン側のトーンと組み合わせて使うのに適したトーンがリザーブ（控え）として割り当てられています。取扱説明書の P. 36 の手順でレイヤーの設定を変えてサブ・トーンを重ねれば、プリセット・パッチのバリエーションが作れます。

Demonstration Play

1. With PEDAL 1 depressed, turn the power on.

2. Press the [+] button 3 times.

3. Press [EDIT/PLAY].
   The demo for Patch "A14" (Nylon Guitar & Strings) will start.

4. Press [EDIT/PLAY] again.
   The demo will stop.

5. To return to the unit's normal state, turn the power off and then on again.

音色紹介プレイの効果的な鳴らし方

1. ペダル 1 を押しながら電源を入れます。

2. [+] ボタンを3回押します。

3. [EDIT/PLAY] ボタンを押します。
   パッチ「A14」（ナイロン弦ギターとストリングス）のデモがスタートします。

4. 再度 [EDIT/PLAY] を押します。
   デモはストップします。

5. 一旦電源を切り、再度、電源を入れ直します。
   通常状態に戻ります。

for GR-09

00456112 '94-2-CG2-11D

Information

When you need repair service, call your local Roland Service Station or the authorized Roland distributor in your country as shown below.

U. S. A.
Roland Corporation US
7200 Dominion Circle
Los Angeles, CA. 90040-3696, U. S. A.
TEL: (213) 685-5141

CANADA
Roland Canada Music Ltd.
(Head Office)
5480 Parkwood Way
Richmond B. C., V6V 2M4
CANADA
TEL: (604) 270-6626

Roland Canada Music Ltd.
(Montreal Office)
9425 Transcanadienne
Service Rd. N., St Laurent,
Quebec H4S 1V3, CANADA
TEL: (514) 335-2009

Roland Canada Music Ltd.
(Toronto Office)
346 Watline Avenue,
Mississauga, Ontario L4Z 1X2, CANADA
TEL: (416) 890-6488

AUSTRALIA
Roland Corporation Australia Pty. Ltd.
38 Campbell Avenue
Dee Why West, NSW 2099
AUSTRALIA
TEL: (02) 982-8266

NEW ZEALAND
Roland Corporation (NZ) Ltd.
97 Mt. Eden Road, Mt. Eden,
Auckland 3, NEW ZEALAND
TEL: (09) 3098-715

UNITED KINGDOM
Roland (U.K.) Ltd.
Rye Close Ancells Business Park Fleet, Hampshire GU13 8UY, UNITED KINGDOM
TEL: 0252-816181

Roland (U.K.) Ltd., Swansea Office
Atlantic Close, Swansea Enterprise Park, Swansea,
West Glamorgan SA79FJ,
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TEL: (0792) 700-139

IRELAND
The Dublin Service Centre Audio Maintenance Limited
11 Brunswick Place Dublin 2
Republic of Ireland
TEL: 010 353 1677322

ITALY
Roland Italy S. p. A.
Viale delle Industrie 8 20020
ARESE MILANO ITALY
TEL: 02-93581311

SPAIN
Roland Electronics de España, S. A.
Calle Bolivia 239 08020
Barcelona, SPAIN
TEL: 93-308-1000

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